

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

sites: std
length: 4102 (circular)

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pleI
hinfI
xhoI salI
paer7I taqI          aluI
ecorI taqI hincII/hindII tru9I          eco57I
apoI avai accI acII mseI          bslI
1 GAATTCTCGA GTCGACGGCG GCGGTTAAAG CTCTCGTGGC ATTATCCTTC AGTGGGGCTA TTGGACTGAC TTTTCTTATG CTGGGATGTG CCITAGAGGA
CTTAAGAGCT CAGCTGCCGC CCGCAATTTC GAGAGCACCG TAATAGGAAG TCACCCCGAT AACCTGACTG AAAGAATAC GACCCTACAC GGAATCTCCT

rsal
csp6I          eco57I          apoI          maeIII          apoI          tru9I          mseI
101 TTATGGGTGT ACTTCTCTGA AGTAAGATGA TTTGTCAAAA ATTCTGTGTG GTTTGTGTAC ATTGGGAATT TATTATGTG ATAACGCGT TTAACCTTGTG
AATACCCACA TGAAGAGACT TCATTCTACT AAACAGTTTT TAAGACACAC CAAACAATG TAACCTTAA ATAAATACAC TATTGACGCA AATTGAACAG
1 M I C Q K F C V Y L L H W E F I Y V I T A F N L S

nlaIII
sphI
nspI
nspHI          apoI
201 ATATCCAATT ACTCCTTGA GATTTAAGTT GTCTTGCATG CCACCAAAAT CAACCTATGA CTACTTCCTT TTGCTGCTG TACTCTCAA GAATACTTCA
TATAGGTTAA TGAGGAACCT CTAAATTCAA CAGAACGTAC GGTGGTTAA GTTGATACT GATGAAGGAA AACGGACGAC CTGAGAGTTT CTTATGAAGT
26 Y P I T P W R F K L S C M P P N S T Y D Y F L L P A G L S K N T S

pleI          hinfI          apoI
xcmI          styI          bsaJI          tru9I          mseI          apoI
201 ATATCCAATT ACTCCTTGA GATTTAAGTT GTCTTGCATG CCACCAAAAT CAACCTATGA CTACTTCCTT TTGCTGCTG TACTCTCAA GAATACTTCA
TATAGGTTAA TGAGGAACCT CTAAATTCAA CAGAACGTAC GGTGGTTAA GTTGATACT GATGAAGGAA AACGGACGAC CTGAGAGTTT CTTATGAAGT
26 Y P I T P W R F K L S C M P P N S T Y D Y F L L P A G L S K N T S

taqI
sfuI
bstBI
bsiCI
asuII          pvuII          nspBII          bsmAI          aluI          ddel          mseI          csp6I
301 AATTGGAATG GACATTATGA GACAGCTGTT GAACCTAAGT TTAATTCAA TGGTACTCAC TTTTCTAACT TATCCAAAAC AACTTCCAC TGTGCTTTC
TTAAGCTTAC CTGTAATACT CTGTGACAA CTTGGATTCA AATTAAGTTC ACCATGAGTG AAAAGATTGA ATAGGTTTG TTGAAAGGTG ACAACGAAAG
59 N S N G H Y E T A V E P K F N S S G T H F S N L S K T T F H C C F R

apoI          sfanI
401 GGAGTGAGCA AGATAGAAC TGCTCCTTAT GTGCAGACAA CATGAAGGA AAGACATTG TTCAACAGT AAATCTTTA GTTTTCAAC AATAGATGC
CCTCACTCGT TCTATCTTTG ACGAGGAATA CACGTCTGTT GTAACCTCCT TCTGTAAAC AAAGTTGTCA TTTAAGAAAT CAAAAGTTG TTTATCTACG
93 S E Q D R N C S L C A D N I E G K T F V S T V N S L V F Q Q I D A

xmnI
tflI
hinfI
pleI          tru9I          mseI          asp700
501 AACTGGAAC ATACAGTCTT GCTAAAGG AGACTTAAA TTATTCATCT GTTATGTGGA GTCATTATTT AAGAATCTAT TCAGGAATTA TAACTATAG
TTTGACCTTG TATGTCACGA CCGATTCTCC TCTGAATTTT AATAAGTAGA CAATACACCT CAGTAATAAA TTCTTAGATA AGTCCTTAAT ATTGATATTC
126 N W N I Q C W L K G D L K L F I C Y V E S L F K N L F R N Y N Y K

sau96I
avaiI          asuI

```

Figure 1A

tflII
 hinfI mnlI bslI
 eco57I mboII hphI nlaIV
 601 GTCCATCTTT TATATGTTCT GCCTGAAGTG TTAGAGATT CACCTCTGGT TCCCCAAAAA GGCAGTTTC AGATGGTTCA CTGCAATTGC AGTGTTCATG
 CAGGTAGAAA ATATACAAGA CGGACTTCAC AATCTTCTAA GTGGAGACCA AGGGGTTTTT CCGTCAAAAG TCTACCAAGT GACGTTAAGC TCACAAGTAC
 159 V H L L Y V L P E V L E D S P L V P Q K G S F Q M V H C N C S V H E
 hphI
 maelII
 bsrI mnlI
 701 AATGTTGTGA ATGCTTGTG CCTGTGCCAA CAGCCAAACT CAACGACACT CTCCTTATGT GTTGAAAAAT CACATCTGGT GGAGTAATTT TCCAGTCACC
 TTACAACACT TACAGNACAC GGACACGGTT GTCGGTTTGA GTTGCTGTGA GAGGAATACA CAAACTTTTA GTGTAGACCA CCTCATTTAA AGGTCAGTGG
 193 C C E C L V P V P T A K L N D T L L M C L K I T S G G V I F Q S P
 bslI
 sau3AI
 mboI/ndeII[dam-]
 dpnI[dam+]
 dpnII[dam-]
 bstXI hphI ndeI
 801 TCTAATGTCA GTTCAGCCCA TAAATATGGT GAAGCCTGAT CCACCATTAG GTTGGCATAT GGAATCACA GATGATGGTA ATTTAAAGAT TTCTTGGTCC
 AGATTACAGT CAAGTCGGGT ATTTATACCA CTTCGGACTA GTGGTAATC CAAACGTATA CCTTTAGTGT CTACTACCAT TAAATTTCTA AAGAACCAGG
 226 L M S V Q P I N H V K P D P P L G L H M E I T D D G N L K I S W S
 xcmI
 sau96I
 avaII
 asuI
 ahaIII/draI
 drdI ddeI
 bsmAI aluI foki
 901 AGCCCAACCAT TGGTACCATT TCCACTTCAA TATCAAGTGA AATATTGAGA GAATCTACA ACAGTTATCA GAGAAGCTGA CAAGATTGTC TCAGCTACAT
 TCGGGTGGTA ACCATGGTAA AGGTGAAGTT ATAGTTCACT TTATAAGTCT CTTAAGATGT TGTCATAGT CTCTTCGACT GTTCTAACAG AGTCGATGTA
 259 S P P L V P P P L Q Y Q V K Y S E N S T T V I R E A D K I V S A T S
 ~begin12u
 rsal
 csp6I
 nlaIV
 kpnI
 hgiCI
 bani
 asp718
 acc65I
 bslI
 901 AGCCCAACCAT TGGTACCATT TCCACTTCAA TATCAAGTGA AATATTGAGA GAATCTACA ACAGTTATCA GAGAAGCTGA CAAGATTGTC TCAGCTACAT
 TCGGGTGGTA ACCATGGTAA AGGTGAAGTT ATAGTTCACT TTATAAGTCT CTTAAGATGT TGTCATAGT CTCTTCGACT GTTCTAACAG AGTCGATGTA
 259 S P P L V P P P L Q Y Q V K Y S E N S T T V I R E A D K I V S A T S
 tflI
 scrFI
 mvaI
 ecorII
 dsav
 bstXI
 bstNI
 apyI[dcmt+]
 sau96I
 rsal
 haeIII/palI
 bsrI asuI hinfI maelII scaI
 1001 CCCTGCTAGT AGACAGTATA CTTCCTGGGT CTTCGTATGA GGTTCAGGTG AGGGGCAAGA GACTGGATGG CCCAGGAATC TGGAGTGACT GGAGTACTCC
 GGGACGATCA TCTGTCTAT GAGGACCCA GAAGCATACT CCAAGTCCAC TCCCCCTTCT CTGACCTACC GGGTCTTAG ACCTCACTGA CCTCATGAGG
 293 L L V D S I L P G S S Y E V Q V R G K R L D G P G I W S D W S T P
 accI
 rmaI
 maeI
 bst1107I bsaJI mboII
 accI
 apyI[dcmt+]
 mnlI hphI
 bsmAI foki
 bsaJI
 gsuI/bpmI
 gsuI/bpmI
 mnlI

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1101 TCGTGTCTTT ACCACACAAG ATGTCATATA CTTTCCACCT AAAATTCTGA CAAGTGTGG GTCTAATGTT TCTTTTCACT GCATCTATAA GAAGGAAAC
AGCACAGAAA TGGTGTGTTT TACAGTATAT GAAAGGTGGA TTTTAAGACT GTTCACAACC CAGATTACAA AGAAAGTGA CGTAGATATT CTTCTCTTTG
326 R V F T T Q D V I Y F P P K I L T S V G S N V S F H C I Y K K E N

apoI . ddeI
apoI . aluI apoI mnlI bsrI
fokI
mnlI
1201 AAGATTGTTT CCTCAAAGA GATTGTTTGG TGGATGAATT TAGCTGAGAA AATTCCTCAA AGCCAGTATG ATGTTGTGAG TGATCATGTT AGCAAAGTTA
TTCTAACAAAG GGAGTTTCTT CTAACAACC ACCTACTTAA ATCGACTCTT TTAAGGAGTT TCGGTCATAC TACAACACTC ACTAGTACAA TCGTTTCAAT
359 K I V P S K E I V W W M N L A E K I P Q S Q Y D V V S D H V S K V T

taqI
xhoI
paer7I
avaI
mnlI mnlI
sfanI csp6I bbvI
bsmI
1301 CTTTTTCAA TCTGAATGAA ACCAAACCTC GAGGAAAGTT TACCTATGAT GCAGTGACT GCTGCAATGA ACATGAATGC CATCATCGCT ATGCTGAATT
GAAAAAAGTT AGACTTACTT TGGTTTGGAG CTCCTTCAA ATGGATACTA CGTCACATGA CGACGTTACT TGTACTTACG GTAGTAGCGA TACGACTTAA
393 F F N L N E T K P R G K F T Y D A V Y C C N E H E C H H R Y A E L

rsal
tru9I
mseI
rsal
bsrI
hincII/hindII bsrI maeIII acII
csp6I
1401 ATATGTGATT GATGTCAATA TCAATATCTC ATGTGAACT GATGGGTACT TAACATAAAT GACTTGCAGA TGTCAACCA GTACAATCCA GTCACTTGGC
TATACACTAA CTACAGTTAT AGTTATAGAG TACACTTTGA CTACCCATGA ATTGATTTA CTGAACGCTCT ACCAGTTGGT CATGTTAGGT CAGTGAACGC
426 Y V I D V N I N I S C E T D G Y L T K M T C R W S T S T I Q S L A

hglJII
bsp1286
bmyI
banII
dclI
fokI
1501 GAAAGCACTT TGCATTGAG GTATCATAGG AGCAGCCTTT ACTGTTCTGA TATCCATCT ATTATCCCA TATCTGAGCC CAAAGATTGC TATTGCAGA
CTTTCGTGAA ACGTTAACTC CATAGTATCC TCGTCGGAAA TGACAAGACT ATAAGGTAGA TAAGTAGGT ATAGACTCGG GTTCTAACG ATAAACGTCT
459 E S T L Q L R Y H R S S L Y C S D I P S I H P I S E P K D C Y L Q S

fnu4HI
bbvI
munI mnlI
1601 GAAAGCACTT TGCATTGAG GTATCATAGG AGCAGCCTTT ACTGTTCTGA TATCCATCT ATTATCCCA TATCTGAGCC CAAAGATTGC TATTGCAGA
CTTTCGTGAA ACGTTAACTC CATAGTATCC TCGTCGGAAA TGACAAGACT ATAAGGTAGA TAAGTAGGT ATAGACTCGG GTTCTAACG ATAAACGTCT
493 D G F Y E C I F Q P I F L L S G Y T M W I R I N H S L G S L D S P

ppu10I
nsII/avaIII
bsmI
mboI
draIII
bsaBI[dam-]
mamI[dam-]
alwI[dam-]
pleI
hinfI
1601 GTGATGGTTT TTATGAATGC ATTTCCAGC CAATCTTCTT ATTATCTGGC TACACAATGT GGATTAGGAT CAATCACTCT CTAGGTTTCC TTAGCTCTCC
CACTACCAA AATACTTACG TAAAGGTGCG GTTAGAAGGA TAATAGACCG ATGTGTTACA CCTAATCCTA GTTAGTGAGA GATCCAAGTG AACTGAGAGG
493 D G F Y E C I F Q P I F L L S G Y T M W I R I N H S L G S L D S P

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Figure 1c

1



3301 GAACTTTTGA AATTGGAGGG AATTTCCTT GAAGAAATA ATGATAAAA GTCTATCTAT TATTAGGG TCACCTCAAT CAAAAGAGA GAGAGTGGTG
CTTGAAACTT TTAACCTCCC TTAAAGGGA CTTCTTTTAT TACTATTTT CAGATAGATA ATAAATCCCC AGTGGAGTTA GTTTTCTCT CTCTCACCAC
1059 E L L K L E G N F P E E N N D K K S I Y Y L G V T S I K K R E S G V

3401 TGCTTTTGAC TGACAAGTCA AGGTATCGT GCCCATTTCC AGCCCCCTGT TTATTCACGG ACATCAGAGT TCTCCAGGAC AGTTGCTCAC ACTTTGTAGA
ACGAAACTG ACTGTTCACT TCCCATAGCA CGGGTAAGGG TCGGGGGACA AATAAGTGCC TGTAGTCTCA AGAGGTCTCG TCAAGGAGTG TGAACATCT
1093 L L T D K S R V S C P F P A P C L F T D I R V L Q D S C S H F V E

3501 AAATAATATC AACTTAGGAA CTTCTAGTAA GAAGACTTTT GCATCTTACA TGCTCAATT CCAAACTTGT TCTACTCAGA CTCATAAGAT CATGGAAAC
TTTATTATAG TTGAATCCTT GAAGATCAAT CTTCTGAAA CGTAGAATGT ACGGAGTTAA GGTGTGAACA AGATGAGTCT GAGTATTTCTA GTACCTTTTG
1126 N I N L G T S S K K T F A S Y M P Q F Q T C S T Q T H K I M E N

3601 AAGATGTGTG ACCTAAGTGT GTAATTTCAC TGAAGAAACC TTCAGATTGG TGTATAATG GGTATAATA AGTGAATAG ATTATAGTTG TGGTGGGAG
TTCTACACAC TGGATTGACA CATTAAAGTG ACTTCTTTGG AAGTCTAAAC ACAATATTAC CCATTATATT TCACATTATC TMTATATCAAC ACCCACCCTC
1159 K M C D L T V

3701 AGAGAAAAGA AACCAGAGTC AATTGTGAA ATNATTGTTT CAAATGAATG TTGTCTGTTT GTTCTCTCTT AGTAACATAG ACAAAATTT TGAGAAAGCC
TCTCTTTTCT TTGGTCTCAG TTNAACTTT TATTAACRAG GTTTACTTAC AACAGACAAA CAAGAGAGAA TCATTGTATC TGTTTTAA ACTCTTTGG

3801 TTCATAAGCC TACCAATGTA GACACGCTCT TCTATTTTAT TCCCAAGCTC TAGTGGGAG GTCCCTTGT TCCAGCTAGA AATAAGCCCA ACAGACACCA
AAGTATTCGG ATGGTTACAT CTGTGGAGA AGATAAATA AGGTTTCGAG ATCACCCTTC CAGGGAACAA AGGTGATCT TATTCGGGT TGTCTGTGT

3901 TCTTTTGTGA GATGTAATG TTTTTCAGA GGGCGTGTG TTTTACCTCA AGTTTGTG TTGTACCAAC ACACACACAC ACACACATTC TTAACACATG
AGAAACACT CTACATTAC AAAAAAGTCT CCGCACAC CCAATGGTGT TGTGTGTGTG TGTGTGTAG AATTGTGTAC

Figure 1G

waxfull.6.4.variant	1	MICORVLLHWEFIYVITAFNLSTPITPWR
waxfull.12.1.variant	1	MICORVLLHWEFIYVITAFNLSTPITPWR
waxfull.13.2.variant	1	MICORFCVLLHWEFIYVITAFNLSTPITPWR
waxfull.6.4.variant	51	AGLSKNTSNMNGHYETAVEPKFNSSGTHFSNLSKTTFNCCFRSEODRNC
waxfull.12.1.variant	51	AGLSKNTSNMNGHYETAVEPKFNSSGTHFSNLSKTTFNCCFRSEODRNC
waxfull.13.2.variant	51	AGLSKNTSNMNGHYETAVEPKFNSSGTHFSNLSKTTFNCCFRSEODRNC
waxfull.6.4.variant	101	LCADNIEGKTFVSTVNSLVFOOIDANWNIGCWLGDLKLFICYVESLFKN
waxfull.12.1.variant	101	LCADNIEGKTFVSTVNSLVFOOIDANWNIGCWLGDLKLFICYVESLFKN
waxfull.13.2.variant	101	LCADNIEGKTFVSTVNSLVFOOIDANWNIGCWLGDLKLFICYVESLFKN
waxfull.6.4.variant	151	LFRNYNYKVHLLYVLPEVLEDSPLVPOKGSFQMVHNCNCSVHECCECLVPV
waxfull.12.1.variant	151	LFRNYNYKVHLLYVLPEVLEDSPLVPOKGSFQMVHNCNCSVHECCECLVPV
waxfull.13.2.variant	151	LFRNYNYKVHLLYVLPEVLEDSPLVPOKGSFQMVHNCNCSVHECCECLVPV
waxfull.6.4.variant	201	PTAKLNDTLLMCLKITSGGVIFOSPLMSVOPINMVKPDPPLGLHMEITDD
waxfull.12.1.variant	201	PTAKLNDTLLMCLKITSGGVIFOSPLMSVOPINMVKPDPPLGLHMEITDD
waxfull.13.2.variant	201	PTAKLNDTLLMCLKITSGGVIFOSPLMSVOPINMVKPDPPLGLHMEITDD
waxfull.6.4.variant	251	GNLKISWSSPPLVPPFLOYOVKYSENSTTVIREADKIVSATSLLVDSILP
waxfull.12.1.variant	251	GNLKISWSSPPLVPPFLOYOVKYSENSTTVIREADKIVSATSLLVDSILP
waxfull.13.2.variant	251	GNLKISWSSPPLVPPFLOYOVKYSENSTTVIREADKIVSATSLLVDSILP
waxfull.6.4.variant	301	GSSYEYOVRGKRLDGPGIWSOWSTPRVFTTODVIYFPPKILTSVGSNVSF
waxfull.12.1.variant	301	GSSYEYOVRGKRLDGPGIWSOWSTPRVFTTODVIYFPPKILTSVGSNVSF
waxfull.13.2.variant	301	GSSYEYOVRGKRLDGPGIWSOWSTPRVFTTODVIYFPPKILTSVGSNVSF
waxfull.6.4.variant	351	HCYKKEKIVPSKEIVWWMLAEKIPSOYDVVSDHVSKEYTFFNLNETK
waxfull.12.1.variant	351	HCYKKEKIVPSKEIVWWMLAEKIPSOYDVVSDHVSKEYTFFNLNETK
waxfull.13.2.variant	351	HCYKKEKIVPSKEIVWWMLAEKIPSOYDVVSDHVSKEYTFFNLNETK
waxfull.6.4.variant	401	PRGKFTYDAVYCCNEHECHRYAELYVIDVNINISCETDGYLTGMTCRWS
waxfull.12.1.variant	401	PRGKFTYDAVYCCNEHECHRYAELYVIDVNINISCETDGYLTGMTCRWS
waxfull.13.2.variant	401	PRGKFTYDAVYCCNEHECHRYAELYVIDVNINISCETDGYLTGMTCRWS
waxfull.6.4.variant	451	TSTIQSLAESTLQRYHRSSLYCSDIPSINHPISEPKDCYLOSOGFYECIF
waxfull.12.1.variant	451	TSTIQSLAESTLQRYHRSSLYCSDIPSINHPISEPKDCYLOSOGFYECIF
waxfull.13.2.variant	451	TSTIQSLAESTLQRYHRSSLYCSDIPSINHPISEPKDCYLOSOGFYECIF
waxfull.6.4.variant	501	OPIFLLSGYTMWIRINHSLGSLDSPPTCVLPDSVVKPLPPSSVKAELITIN
waxfull.12.1.variant	501	OPIFLLSGYTMWIRINHSLGSLDSPPTCVLPDSVVKPLPPSSVKAELITIN
waxfull.13.2.variant	501	OPIFLLSGYTMWIRINHSLGSLDSPPTCVLPDSVVKPLPPSSVKAELITIN
waxfull.6.4.variant	551	IGLLKISWEKPVFPENHLOFOIRYGLSGKEVOWKMYEVYDAKSKSVSLPV
waxfull.12.1.variant	551	IGLLKISWEKPVFPENHLOFOIRYGLSGKEVOWKMYEVYDAKSKSVSLPV
waxfull.13.2.variant	551	IGLLKISWEKPVFPENHLOFOIRYGLSGKEVOWKMYEVYDAKSKSVSLPV
waxfull.6.4.variant	601	PDLCAVYAVOVRCKRLOGLGYSNWSNPAYTVVMDIKVPMRGPEFWRIIN
waxfull.12.1.variant	601	PDLCAVYAVOVRCKRLOGLGYSNWSNPAYTVVMDIKVPMRGPEFWRIIN
waxfull.13.2.variant	601	PDLCAVYAVOVRCKRLOGLGYSNWSNPAYTVVMDIKVPMRGPEFWRIIN
waxfull.6.4.variant	651	GDTMKKEKNVTLLWKPLMKNDLCSVORYVINHNTSCHGTWSEDVGNHTK
waxfull.12.1.variant	651	GDTMKKEKNVTLLWKPLMKNDLCSVORYVINHNTSCHGTWSEDVGNHTK
waxfull.13.2.variant	651	GDTMKKEKNVTLLWKPLMKNDLCSVORYVINHNTSCHGTWSEDVGNHTK
waxfull.6.4.variant	701	FTFLWTEQANTVTVLAINSIGASVANFNLTFSWPMSKYNIVOSLSAYPLN
waxfull.12.1.variant	701	FTFLWTEQANTVTVLAINSIGASVANFNLTFSWPMSKYNIVOSLSAYPLN
waxfull.13.2.variant	701	FTFLWTEQANTVTVLAINSIGASVANFNLTFSWPMSKYNIVOSLSAYPLN

Figure 2A

wxsfull.6.4.variant 751 SSCVIV! SPSDYKLMYF...
 wxsfull.12.1.variant 751 SSCVIVS SPSDYKLMYFIEWKNLNEEDGEIK ISSSVKKYYINDH
 wxsfull.13.2.variant 751 SSCVIVSWILSPSDYKLMYFIEWKNLNEEDGEIKWLRISSSVKKYYINDH

Trans-
 wxsfull.6.4.variant 801 FIPIEKYOFSLYPIMFMEGVGKPKIINSFTODDIEKHOSDAGLYVIVPVII
 wxsfull.12.1.variant 801 FIPIEKYOFSLYPIMFMEGVGKPKIINSFTODDIEKHOSDAGLYVIVPVII
 wxsfull.13.2.variant 801 FIPIEKYOFSLYPIMFMEGVGKPKIINSFTODDIEKHOSDAGLYVIVPVII

membrane Domain ← Box 1
 wxsfull.6.4.variant 851 SSSILLLGTLTLLISHORMKKLFWEDVPNPKNCSSWAQGLNFOR...
 wxsfull.12.1.variant 851 SSSILLLGTLTLLISHORMKKLFWEDVPNPKNCSSWAQGLNFQK... MF
 wxsfull.13.2.variant 851 SSSILLLGTLTLLISHORMKKLFWEDVPNPKNCSSWAQGLNFORPETFEHLFI

Box 2
 wxsfull.13.2.variant 901 KNTASVTCPLLEPETISEDISVOTSWKNKDEHMPPTTVVSLSTTDLEK

Box 3
 wxsfull.13.2.variant 951 GSVCSDOF SVNFSEAEGETEYVEDESORPFYKYATLISNSKPSETGE

wxsfull.6.4.variant 992 R
 wxsfull.12.1.variant 994 RTPIVPGH
 wxsfull.13.2.variant 1001 EGGLEINSSVTKCFSSKNSPLKDSFSNSSWEIEAQAFFILSDOHPIIISPH

wxsfull.6.4.variant 993 TDI...
 wxsfull.12.1.variant 993 KDLIF...
 wxsfull.13.2.variant 1051 LTFSEGLDELLKLEGNFPEENNDKKSIIYVLGVTSIKKRESGVLLTDKSRV

wxsfull.12.1.variant 998 RRCLKAA CSLRVITTP...
 wxsfull.13.2.variant 1101 SCPFPAPCLFTDIRVLODSCHFVENHINLGTSSKKTFAVMPQFOTCST

wxsfull.13.2.variant 1151 QTHKIMENKMCCLTV

Figure 2B

wsxfull.6.4.variant	1	GAATTC	CGGTTAAAGCTCTCGTGGCATTATCCTT	AGTGGGGCTATTGG
wsxfull.6.4.variant	51	ACTGACTTTTCTTATGCTGGGATGTGCCTTAGAGGATT	ATGGATTTTGCCA	
wsxfull.12.1.variant	1	GAATTC	CGAGTC
wsxfull.13.2.variant	1	GAATTC	CGAGTC
wsxfull.6.4.variant	101	GTTCA	CCCTGACCATCTTGAAAA	TAAAGTTATCTCTGATCTCTGTCTGTAT
wsxfull.12.1.variant	101	GACGGCGGGCGTTAAAGCTCTCGTGGCATTATCCTTCAGTGGGGCTATTG		
wsxfull.13.2.variant	101	GACGGCGGGCGTTAAAGCTCTCGTGGCATTATCCTTCAGTGGGGCTATTG		
wsxfull.6.4.variant	151	GTTACTTCTCTCCCT	CACCAATGGAGAACAAATGTGGGCAAA	GTGTACT
wsxfull.12.1.variant	151	GACTGACTTTTCTTATGCTGGGATGTGCCTTAGAGGATTATGGGTGTACT		
wsxfull.13.2.variant	151	GACTGACTTTTCTTATGCTGGGATGTGCCTTAGAGGATTATGGGTGTACT		
wsxfull.6.4.variant	201	TCTCTGAAGTAAGATGATTTGTCAAAAATTCTGTGTGGTTTTGTACATT		
wsxfull.12.1.variant	201	TCTCTGAAGTAAGATGATTTGTCAAAAATTCTGTGTGGTTTTGTACATT		
wsxfull.13.2.variant	201	TCTCTGAAGTAAGATGATTTGTCAAAAATTCTGTGTGGTTTTGTACATT		
wsxfull.6.4.variant	251	GGGAATTTATTTATGTGATAACTGCGTTTAACTTGTCAATATCCAATTACT		
wsxfull.12.1.variant	251	GGGAATTTATTTATGTGATAACTGCGTTTAACTTGTCAATATCCAATTACT		
wsxfull.13.2.variant	251	GGGAATTTATTTATGTGATAACTGCGTTTAACTTGTCAATATCCAATTACT		
wsxfull.6.4.variant	301	CCTTGGAGATTTAAGTTGTCTTGCATGCCACCAAATTCAACCTATGACTA		
wsxfull.12.1.variant	301	CCTTGGAGATTTAAGTTGTCTTGCATGCCACCAAATTCAACCTATGACTA		
wsxfull.13.2.variant	301	CCTTGGAGATTTAAGTTGTCTTGCATGCCACCAAATTCAACCTATGACTA		
wsxfull.6.4.variant	351	CTTCCTTTTGCCTGCTGGACTCTCAAAGAATACTTCAAATTCGAATGGAC		
wsxfull.12.1.variant	351	CTTCCTTTTGCCTGCTGGACTCTCAAAGAATACTTCAAATTCGAATGGAC		
wsxfull.13.2.variant	351	CTTCCTTTTGCCTGCTGGACTCTCAAAGAATACTTCAAATTCGAATGGAC		
wsxfull.6.4.variant	401	ATTATGAGACAGCTGTTGAACCTAAGTTTAAATTCAAGTGGTACTCACTTT		
wsxfull.12.1.variant	401	ATTATGAGACAGCTGTTGAACCTAAGTTTAAATTCAAGTGGTACTCACTTT		
wsxfull.13.2.variant	401	ATTATGAGACAGCTGTTGAACCTAAGTTTAAATTCAAGTGGTACTCACTTT		
wsxfull.6.4.variant	451	TCTAACTTATCCAAAACAACCTTCCACTGTTGCTTTCGGAGTGAGCAAGA		
wsxfull.12.1.variant	451	TCTAACTTATCCAAAACAACCTTCCACTGTTGCTTTCGGAGTGAGCAAGA		
wsxfull.13.2.variant	451	TCTAACTTATCCAAAACAACCTTCCACTGTTGCTTTCGGAGTGAGCAAGA		
wsxfull.6.4.variant	501	TAGAAACTGCTCCTTATGTGCAGACAACATTGAAGGAAAGACATTTGTTT		
wsxfull.12.1.variant	501	TAGAAACTGCTCCTTATGTGCAGACAACATTGAAGGAAAGACATTTGTTT		
wsxfull.13.2.variant	501	TAGAAACTGCTCCTTATGTGCAGACAACATTGAAGGAAAGACATTTGTTT		
wsxfull.6.4.variant	551	CNACAGTAAATTCTTTAGTTTTTCAACAAATAGATGCAAACTGGAACATA		
wsxfull.12.1.variant	551	CNACAGTAAATTCTTTAGTTTTTCAACAAATAGATGCAAACTGGAACATA		
wsxfull.13.2.variant	551	CNACAGTAAATTCTTTAGTTTTTCAACAAATAGATGCAAACTGGAACATA		
wsxfull.6.4.variant	601	CAGTGCTGGCTAAAAGGAGACTTAAAATTATTCACTCTGTTATGTGGAGTC		
wsxfull.12.1.variant	601	CAGTGCTGGCTAAAAGGAGACTTAAAATTATTCACTCTGTTATGTGGAGTC		
wsxfull.13.2.variant	601	CAGTGCTGGCTAAAAGGAGACTTAAAATTATTCACTCTGTTATGTGGAGTC		
wsxfull.6.4.variant	651	ATTATTTAAGAATCTATTCAAGGAATTATAACTATAAGGTCCATCTTTTAT		
wsxfull.12.1.variant	651	ATTATTTAAGAATCTATTCAAGGAATTATAACTATAAGGTCCATCTTTTAT		
wsxfull.13.2.variant	651	ATTATTTAAGAATCTATTCAAGGAATTATAACTATAAGGTCCATCTTTTAT		
wsxfull.6.4.variant	701	ATGTTCTGCCTGAAGTGTTAGAAGATTACCTCTGGTCCCCAAAAAGGC		
wsxfull.12.1.variant	701	ATGTTCTGCCTGAAGTGTTAGAAGATTACCTCTGGTCCCCAAAAAGGC		
wsxfull.13.2.variant	701	ATGTTCTGCCTGAAGTGTTAGAAGATTACCTCTGGTCCCCAAAAAGGC		
wsxfull.6.4.variant	751	AGTTTTCAGATGGTTCACCTGCAATTGCAGTGTTCAATGAATGTTGTGAATG		
wsxfull.12.1.variant	751	AGTTTTCAGATGGTTCACCTGCAATTGCAGTGTTCAATGAATGTTGTGAATG		
wsxfull.13.2.variant	751	AGTTTTCAGATGGTTCACCTGCAATTGCAGTGTTCAATGAATGTTGTGAATG		

Figure 3A

wxsfll.6.4.variant	801	TCTTGTGCCTGTGCCAACAGGCCAAACTCAACGACACTCCTTATGTGTT
wxsfll.12.1.variant	716	TCTTGTGCCTGTGCCAACAGGCCAAACTCAACGACACTCCTTATGTGTT
wxsfll.13.2.variant	716	TCTTGTGCCTGTGCCAACAGGCCAAACTCAACGACACTCCTTATGTGTT
wxsfll.6.4.variant	851	TGAAAATCACATCTGGTGGAGTAATTTTCCAGTCACCTCTAATGTCAGTT
wxsfll.12.1.variant	764	TGAAAATCACATCTGGTGGAGTAATTTTCCAGTCACCTCTAATGTCAGTT
wxsfll.13.2.variant	764	TGAAAATCACATCTGGTGGAGTAATTTTCCAGTCACCTCTAATGTCAGTT
wxsfll.6.4.variant	901	CAGCCCATAAATATGGTGAAGCCTGATCCACCATTAGGTTTGCATATGGA
wxsfll.12.1.variant	814	CAGCCCATAAATATGGTGAAGCCTGATCCACCATTAGGTTTGCATATGGA
wxsfll.13.2.variant	814	CAGCCCATAAATATGGTGAAGCCTGATCCACCATTAGGTTTGCATATGGA
wxsfll.6.4.variant	951	AATCACAGATGATGGTAATTTAAAGATTTCTTGGTCCAGCCCAACCATTGG
wxsfll.12.1.variant	864	AATCACAGATGATGGTAATTTAAAGATTTCTTGGTCCAGCCCAACCATTGG
wxsfll.13.2.variant	864	AATCACAGATGATGGTAATTTAAAGATTTCTTGGTCCAGCCCAACCATTGG
wxsfll.6.4.variant	1001	TACCATTTCCTACTTCAATATCAAGTGAAATATTTCAGAGAATTCTACAACA
wxsfll.12.1.variant	914	TACCATTTCCTACTTCAATATCAAGTGAAATATTTCAGAGAATTCTACAACA
wxsfll.13.2.variant	914	TACCATTTCCTACTTCAATATCAAGTGAAATATTTCAGAGAATTCTACAACA
wxsfll.6.4.variant	1051	GTTATCAGAGAAGCTGACAAGATTGTCTCAGCTACATCCCTGCTAGTAGA
wxsfll.12.1.variant	964	GTTATCAGAGAAGCTGACAAGATTGTCTCAGCTACATCCCTGCTAGTAGA
wxsfll.13.2.variant	964	GTTATCAGAGAAGCTGACAAGATTGTCTCAGCTACATCCCTGCTAGTAGA
wxsfll.6.4.variant	1101	CAGTATACTTCCTGGGTCTTCGTATGAGGTTTCCAGGTGAGGGGCAAGAGAC
wxsfll.12.1.variant	1014	CAGTATACTTCCTGGGTCTTCGTATGAGGTTTCCAGGTGAGGGGCAAGAGAC
wxsfll.13.2.variant	1014	CAGTATACTTCCTGGGTCTTCGTATGAGGTTTCCAGGTGAGGGGCAAGAGAC
wxsfll.6.4.variant	1151	TGGATGGCCCAAGGAATCTGGAGTGACTGGAGTACTCCTCGTGTCTTTACC
wxsfll.12.1.variant	1064	TGGATGGCCCAAGGAATCTGGAGTGACTGGAGTACTCCTCGTGTCTTTACC
wxsfll.13.2.variant	1064	TGGATGGCCCAAGGAATCTGGAGTGACTGGAGTACTCCTCGTGTCTTTACC
wxsfll.6.4.variant	1201	ACACAAGATGTCATATACCTTCCACCTAAAATTCTGACAAGTGTTGGGTC
wxsfll.12.1.variant	1114	ACACAAGATGTCATATACCTTCCACCTAAAATTCTGACAAGTGTTGGGTC
wxsfll.13.2.variant	1114	ACACAAGATGTCATATACCTTCCACCTAAAATTCTGACAAGTGTTGGGTC
wxsfll.6.4.variant	1251	TAAATGTTTCTTTTCACTGCATCTATAAGAAGGAAAACAAGATTGTTCCCT
wxsfll.12.1.variant	1164	TAAATGTTTCTTTTCACTGCATCTATAAGAAGGAAAACAAGATTGTTCCCT
wxsfll.13.2.variant	1164	TAAATGTTTCTTTTCACTGCATCTATAAGAAGGAAAACAAGATTGTTCCCT
wxsfll.6.4.variant	1301	CAAAAGAGATTGTTTGGTGGATGAATTTAGCTGAGAAAATTCTCAAAGC
wxsfll.12.1.variant	1214	CAAAAGAGATTGTTTGGTGGATGAATTTAGCTGAGAAAATTCTCAAAGC
wxsfll.13.2.variant	1214	CAAAAGAGATTGTTTGGTGGATGAATTTAGCTGAGAAAATTCTCAAAGC
wxsfll.6.4.variant	1351	CAGTATGATGTTGTGAGTGATCATGTTAGCAAAGTTACTTTTTTCAATCT
wxsfll.12.1.variant	1264	CAGTATGATGTTGTGAGTGATCATGTTAGCAAAGTTACTTTTTTCAATCT
wxsfll.13.2.variant	1264	CAGTATGATGTTGTGAGTGATCATGTTAGCAAAGTTACTTTTTTCAATCT
wxsfll.6.4.variant	1401	GAATGAAACCAACCTCGAGGAAAGTTTACCTATGATGCAGTGTACTGCT
wxsfll.12.1.variant	1314	GAATGAAACCAACCTCGAGGAAAGTTTACCTATGATGCAGTGTACTGCT
wxsfll.13.2.variant	1314	GAATGAAACCAACCTCGAGGAAAGTTTACCTATGATGCAGTGTACTGCT
wxsfll.6.4.variant	1451	GCAATGAACATGAATGCCATCATCGCTATGCTGAATTATATGTGATTGAT
wxsfll.12.1.variant	1364	GCAATGAACATGAATGCCATCATCGCTATGCTGAATTATATGTGATTGAT
wxsfll.13.2.variant	1364	GCAATGAACATGAATGCCATCATCGCTATGCTGAATTATATGTGATTGAT
wxsfll.6.4.variant	1501	GTCAATATCAATATCTCATGTGAAACTGATGGGTACTTAACTAAAATGAC
wxsfll.12.1.variant	1414	GTCAATATCAATATCTCATGTGAAACTGATGGGTACTTAACTAAAATGAC
wxsfll.13.2.variant	1414	GTCAATATCAATATCTCATGTGAAACTGATGGGTACTTAACTAAAATGAC

Figure 3B

wsxfull.6.4.variant	1351	TTGCAGATCAACCAAGTACCAATCCAGTCACTTCAAGCACTTTGC
wsxfull.12.1.variant	1464	TTGCAGATCAACCAAGTACCAATCCAGTCACTTCAAGCACTTTGC
wsxfull.13.2.variant	1464	TTGCAGATGGTCAACCAAGTACCAATCCAGTCACTTCAAGCACTTTGC
wsxfull.6.4.variant	1601	AATTGAGGTATCATAGGAGCAGCCTTTACTGTTCTGATATTCCATCTATT
wsxfull.12.1.variant	1514	AATTGAGGTATCATAGGAGCAGCCTTTACTGTTCTGATATTCCATCTATT
wsxfull.13.2.variant	1514	AATTGAGGTATCATAGGAGCAGCCTTTACTGTTCTGATATTCCATCTATT
wsxfull.6.4.variant	1651	CATCCCATATCTGAGCCCAAAGATTGCTATTTGCAGAGTGATGGTTTTTA
wsxfull.12.1.variant	1564	CATCCCATATCTGAGCCCAAAGATTGCTATTTGCAGAGTGATGGTTTTTA
wsxfull.13.2.variant	1564	CATCCCATATCTGAGCCCAAAGATTGCTATTTGCAGAGTGATGGTTTTTA
wsxfull.6.4.variant	1701	TGAATGCATTTTCCAGCCCAATCTTCCTATTATCTGGCTACACAATGTGGA
wsxfull.12.1.variant	1614	TGAATGCATTTTCCAGCCCAATCTTCCTATTATCTGGCTACACAATGTGGA
wsxfull.13.2.variant	1614	TGAATGCATTTTCCAGCCCAATCTTCCTATTATCTGGCTACACAATGTGGA
wsxfull.6.4.variant	1751	TTAGGATCAATCACTCTCTAGGTTCACTTGACTCTCCACCAACATGTGTC
wsxfull.12.1.variant	1664	TTAGGATCAATCACTCTCTAGGTTCACTTGACTCTCCACCAACATGTGTC
wsxfull.13.2.variant	1664	TTAGGATCAATCACTCTCTAGGTTCACTTGACTCTCCACCAACATGTGTC
wsxfull.6.4.variant	1801	CTTCCTGATTCTGTGGTGAAGCCACTGCCCTCCATCCAGTGTGAAAGCAGA
wsxfull.12.1.variant	1714	CTTCCTGATTCTGTGGTGAAGCCACTGCCCTCCATCCAGTGTGAAAGCAGA
wsxfull.13.2.variant	1714	CTTCCTGATTCTGTGGTGAAGCCACTGCCCTCCATCCAGTGTGAAAGCAGA
wsxfull.6.4.variant	1851	AATTACTATAAACATTGGATTATTGAAAATATCTTGGGAAAAGCCAGTCT
wsxfull.12.1.variant	1764	AATTACTATAAACATTGGATTATTGAAAATATCTTGGGAAAAGCCAGTCT
wsxfull.13.2.variant	1764	AATTACTATAAACATTGGATTATTGAAAATATCTTGGGAAAAGCCAGTCT
wsxfull.6.4.variant	1901	TCCAGAGAATAACCTTCAATTCCAGATTGCTATGGTTTAAGTGGAAAA
wsxfull.12.1.variant	1814	TCCAGAGAATAACCTTCAATTCCAGATTGCTATGGTTTAAGTGGAAAA
wsxfull.13.2.variant	1814	TCCAGAGAATAACCTTCAATTCCAGATTGCTATGGTTTAAGTGGAAAA
wsxfull.6.4.variant	1951	GAGGTACAATGGAAGATGTATGAGGTTTATGATGCAAAATCAAAATCTGT
wsxfull.12.1.variant	1864	GAGGTACAATGGAAGATGTATGAGGTTTATGATGCAAAATCAAAATCTGT
wsxfull.13.2.variant	1864	GAGGTACAATGGAAGATGTATGAGGTTTATGATGCAAAATCAAAATCTGT
wsxfull.6.4.variant	2001	CAGTCTCCAGTTCCAGACTTGTGTGCAGTCTATGCTGTTTCAAGGTGCGCT
wsxfull.12.1.variant	1914	CAGTCTCCAGTTCCAGACTTGTGTGCAGTCTATGCTGTTTCAAGGTGCGCT
wsxfull.13.2.variant	1914	CAGTCTCCAGTTCCAGACTTGTGTGCAGTCTATGCTGTTTCAAGGTGCGCT
wsxfull.6.4.variant	2051	GTAAGAGGCTAGATGGACTGGGATATTGGAGTAATTGGAGCAATCCAGCC
wsxfull.12.1.variant	1964	GTAAGAGGCTAGATGGACTGGGATATTGGAGTAATTGGAGCAATCCAGCC
wsxfull.13.2.variant	1964	GTAAGAGGCTAGATGGACTGGGATATTGGAGTAATTGGAGCAATCCAGCC
wsxfull.6.4.variant	2101	TACACAGTTGTGATGGATATAAAAGTTTCTATGAGAGGACCTGAATTTTG
wsxfull.12.1.variant	2014	TACACAGTTGTGATGGATATAAAAGTTTCTATGAGAGGACCTGAATTTTG
wsxfull.13.2.variant	2014	TACACAGTTGTGATGGATATAAAAGTTTCTATGAGAGGACCTGAATTTTG
wsxfull.6.4.variant	2151	GAGAATAATTAATGGAGATACTATGAAAAAGGAGAAAAATGTCACTTTAC
wsxfull.12.1.variant	2064	GAGAATAATTAATGGAGATACTATGAAAAAGGAGAAAAATGTCACTTTAC
wsxfull.13.2.variant	2064	GAGAATAATTAATGGAGATACTATGAAAAAGGAGAAAAATGTCACTTTAC
wsxfull.6.4.variant	2201	TTTGGAAAGCCCTGATGAAAAATGACTCATTGTGCAGTGTTCAGAGATAT
wsxfull.12.1.variant	2114	TTTGGAAAGCCCTGATGAAAAATGACTCATTGTGCAGTGTTCAGAGATAT
wsxfull.13.2.variant	2114	TTTGGAAAGCCCTGATGAAAAATGACTCATTGTGCAGTGTTCAGAGATAT
wsxfull.6.4.variant	2251	GTGATAAACCATCATACTTCTGCAATGGAACATGGTCAGAAAGATGTGGG
wsxfull.12.1.variant	2164	GTGATAAACCATCATACTTCTGCAATGGAACATGGTCAGAAAGATGTGGG
wsxfull.13.2.variant	2164	GTGATAAACCATCATACTTCTGCAATGGAACATGGTCAGAAAGATGTGGG

Figure 3C

wxsfull.12.1.variant 2214 AAATCA...GAAATTCACTTTCTGTGGACAGAG...
 wxsfull.13.2.variant 2214 AAATCAGACGAAATTCACTTTCTGTGGACAGAG...AAGCACATACTGTTA

wxsfull.6.4.variant 2351 CGGTTCTGGCCATCAATTCAATTGGTGGCTTCTGTTGCAAATTTTAATTTA
 wxsfull.12.1.variant 2354 CGGTTCTGGCCATCAATTCAATTGGTGGCTTCTGTTGCAAATTTTAATTTA
 wxsfull.13.2.variant 2354 CGGTTCTGGCCATCAATTCAATTGGTGGCTTCTGTTGCAAATTTTAATTTA

wxsfull.6.4.variant 2401 ACCTTTTCATGGCCTATGAGCAAAGTAAATATCGTGCAGTCACTCAGTGC
 wxsfull.12.1.variant 2414 ACCTTTTCATGGCCTATGAGCAAAGTAAATATCGTGCAGTCACTCAGTGC
 wxsfull.13.2.variant 2414 ACCTTTTCATGGCCTATGAGCAAAGTAAATATCGTGCAGTCACTCAGTGC

wxsfull.6.4.variant 2431 TTATCCTTTAAACAGCAGTTGTGTGATTGTTTCTGGATACTATCACCCA
 wxsfull.12.1.variant 2444 TTATCCTTTAAACAGCAGTTGTGTGATTGTTTCTGGATACTATCACCCA
 wxsfull.13.2.variant 2444 TTATCCTTTAAACAGCAGTTGTGTGATTGTTTCTGGATACTATCACCCA

wxsfull.6.4.variant 2501 GTGATTACAAGCTAATGTATTTTATTATTGAGTGGAAAAATCTTAATGAA
 wxsfull.12.1.variant 2514 GTGATTACAAGCTAATGTATTTTATTATTGAGTGGAAAAATCTTAATGAA
 wxsfull.13.2.variant 2514 GTGATTACAAGCTAATGTATTTTATTATTGAGTGGAAAAATCTTAATGAA

wxsfull.6.4.variant 2531 GATGGTGAATATAAATGGCTTAGAATCTCTTCATCTGTTAAGAAGTATTA
 wxsfull.12.1.variant 2544 GATGGTGAATATAAATGGCTTAGAATCTCTTCATCTGTTAAGAAGTATTA
 wxsfull.13.2.variant 2544 GATGGTGAATATAAATGGCTTAGAATCTCTTCATCTGTTAAGAAGTATTA

wxsfull.6.4.variant 2601 TATCCATGATCATTTTTATCCCCATTGAGAAGTACCAGTTCAGTCTTTACC
 wxsfull.12.1.variant 2614 TATCCATGATCATTTTTATCCCCATTGAGAAGTACCAGTTCAGTCTTTACC
 wxsfull.13.2.variant 2614 TATCCATGATCATTTTTATCCCCATTGAGAAGTACCAGTTCAGTCTTTACC

wxsfull.6.4.variant 2631 CAATATTTATGGAAGGAGTGGGAAAACCAAAGATAATTAATAGTTTCACT
 wxsfull.12.1.variant 2644 CAATATTTATGGAAGGAGTGGGAAAACCAAAGATAATTAATAGTTTCACT
 wxsfull.13.2.variant 2644 CAATATTTATGGAAGGAGTGGGAAAACCAAAGATAATTAATAGTTTCACT

wxsfull.6.4.variant 2701 CAAGATGATATTGAAAAACACCAGAGTGATGCAGGTTTATATGTAATTGT
 wxsfull.12.1.variant 2714 CAAGATGATATTGAAAAACACCAGAGTGATGCAGGTTTATATGTAATTGT
 wxsfull.13.2.variant 2714 CAAGATGATATTGAAAAACACCAGAGTGATGCAGGTTTATATGTAATTGT

wxsfull.6.4.variant 2731 GCCAGTAATTATTTCTCTTCATCTTATTGCTTGGAACATTATTAATAT
 wxsfull.12.1.variant 2744 GCCAGTAATTATTTCTCTTCATCTTATTGCTTGGAACATTATTAATAT
 wxsfull.13.2.variant 2744 GCCAGTAATTATTTCTCTTCATCTTATTGCTTGGAACATTATTAATAT

wxsfull.6.4.variant 2801 CACACCAAAGAATGAAAAAGCTATTTTGGGAAGATGTTCCGAACCCCAAG
 wxsfull.12.1.variant 2814 CACACCAAAGAATGAAAAAGCTATTTTGGGAAGATGTTCCGAACCCCAAG
 wxsfull.13.2.variant 2814 CACACCAAAGAATGAAAAAGCTATTTTGGGAAGATGTTCCGAACCCCAAG

wxsfull.6.4.variant 2831 AATTGTTCTGGGCACAAGGACTTAATTTTCAGAAGAGGACGGACATTCT
 wxsfull.12.1.variant 2844 AATTGTTCTGGGCACAAGGACTTAATTTTCAGAAGAGGACGGACATTCT
 wxsfull.13.2.variant 2844 AATTGTTCTGGGCACAAGGACTTAATTTTCAGAAGAGGACGGACATTCT

wxsfull.6.4.variant 2901 TTGAAGTCTAATCATGATCACTACAGATGAAGCCAATGTGCCAACTTCCC
 wxsfull.12.1.variant 2914 AAGAATTGTCTCTGGGCACAAGGACTTAATTTTCAGAAGATGCTTGAAGG
 wxsfull.13.2.variant 2914 GCATCTTTTATCAAGCATACAGCATCACTGACATGTGGTCTCTTCTTT

wxsfull.6.4.variant 2931 AACAGTCTATAGAGTATTAGAGATTTTACATTTTGAAGAGGGCCGGA
 wxsfull.12.1.variant 2944 CAGCATGTTCTGTTAAGAGTCACTACCACTCTCTAATCTCAAGTACCCAGG
 wxsfull.13.2.variant 2944 TGGAGCCTGAACAATTTTCAGAGAGATATCAGTGTGATACATCATGGA

wxsfull.6.4.variant 3001 ATTCT...
 wxsfull.12.1.variant 3014 GACACAAAGACTGCCGGAAGGCCACAGGGTCTCTGCAATAGGAAAACCCAGA
 wxsfull.13.2.variant 3014 AATAAAGATGAGATGATGCCAACAAGTGTGGTCTCTCTACTTTCAACAAC

Figure 3D

wsxfull.13.2.variant 1 M I C O K F C V V L L H W E F I Y V I T A F H L S Y P I T P W R F K L S C M P P N S T Y D Y F L L P
mu.wsx.ecd 1 M N C O K F Y V V L L H W E F L Y V I A A L N L A Y P I S P W K F K L F C G P P N T T D D S F L S P

wsxfull.13.2.variant 51 A G L S K N T S N S N G H Y E T A V E P K F N S S G T N F S N L S K T T F H C C F A S E O D R N C S
mu.wsx.ecd 51 A G A P N N A S A L K G A S E A I V E A K F N S S G I Y V P E L S K T V F H C C F G N E O G O N C S

wsxfull.13.2.variant 101 L C A D N I E G K T F V S T Y N S L Y F O O I D A N W N I O C W L K G D L K L F I C Y V E S L F K N
mu.wsx.ecd 101 A L T D N T E G K T L A S V V K A S V F R O L G V N W O I E C W M K G D L T L F I C H W E P L P K N

wsxfull.13.2.variant 151 L F R N Y N Y K V H L L Y V L P E V L E D S P L V P O R G S F O M V H C N C S V N E C C E C L V P V
mu.wsx.ecd 151 P F K N Y D S K V H L L Y D L P E V I D S P L P P L K D S F O T V O C N C S L R G C E C H V P V

wsxfull.13.2.variant 201 P T A K L N D T L L M C L K I T S G G V I F O S P L M S Y O P I N M Y K P D P P L G L H M E I T D D
mu.wsx.ecd 200 P R A K L N Y A L L M Y L E I T S A G V S F O S P L M S L O P M L Y V K P D P P L G L H M E V T D D

wsxfull.13.2.variant 251 G N L K I S W S S P P L V P F P L O Y O V K Y S E N S T T V I R E A D K I V S A T S L L V D S I L P
mu.wsx.ecd 250 G N L K I S W D S O T M A P F P L O Y O V K Y L E N S T I V R E A A E I V S A T S L L V D S V L P

wsxfull.13.2.variant 301 G S S Y E V O V R G K R L D G P G I W S D W S T P R V F T T O D V I Y F P P K I L T S V G S N V S F
mu.wsx.ecd 299 G S S Y E V O V R S K R L D G S G V W S D W S S P O V F T T O D V V Y F P P K I L T S V G S N A S F

wsxfull.13.2.variant 351 H C I Y K K E N K I V P S K E I V W W M N L A E K I P O S O Y D Y V S D H V S K V T F F N L N E T K
mu.wsx.ecd 349 H C I Y K N E N O I V S S K O I V W W R N L A E K I P E I O Y S I V S D R V S K V T F S N L K A T R

wsxfull.13.2.variant 401 P R G K F T Y D A V Y C C N E H E C H N R Y A E L Y V I D V N I N I S C E T D G Y L T K M T C R W S
mu.wsx.ecd 399 P R G K F T Y D A V Y C C N E O A C H N R Y A E L Y V I D V N I N I S C E T D G Y L T K M T C R W S

wsxfull.13.2.variant 451 T S T I O S L A E S T L O L R Y H R S S L Y C S D I P S I N P I S E P K O C Y L O S O G F Y E C I F
mu.wsx.ecd 449 P S T I O S L Y G S T Y O L R Y H R C S L Y C P D S P S I N P T S E P K T A S Y R E T A F M N V F S

wsxfull.13.2.variant 501 Q P I F L L S G Y T M W I R I N H S L G S L D S P P T C V L P D S V V K P L P P S S V K A E I T I N
mu.wsx.ecd 499 S O S F Y L A I O C G F R I N H S L G S L D S P P T C V L P D S V V K P L P P S N V K A E I T V N

wsxfull.13.2.variant 551 I G L L K I S W E K P V F P E N N L O F O I R Y G L S G K E Y O W K M Y E V Y D A K S K S V S L P V
mu.wsx.ecd 549 T G L L K V S W E K P V F P E N N L O F O I R Y G L S G K E I O W K T H E V F D A K S K S A S L L V

wsxfull.13.2.variant 601 P D L C A V Y A V O V R C K R L D G L G Y W S N W S N P A Y T V Y M D I K V P M R G P E F W R I I N
mu.wsx.ecd 599 S D L C A V Y V O V R C R R L D G L G Y W S N W S S P A Y T L Y M D V K V P M R G P E F W R K M D

wsxfull.13.2.variant 651 G D T M K K E K N Y T L L W K P L M K N D S L C S V O R Y V I N H N T S C H G T W S E O V G N H T K
mu.wsx.ecd 649 G O V T K K E R N Y T L L W K P L T K N D S L C S V R R Y V V K N R T A H N G T W S E O V G N R T N

wsxfull.13.2.variant 701 F T F L W T E O A N T V T V L A I N S I G A S V A N F N L T F S W P M S K V N I V O S L S A Y P L N
mu.wsx.ecd 699 L T F L W T E P A N T V T V L A V N S L G A S L V N F N L T F S W P M S K V S A V E S L S A Y P L S

Figure 4A

wxsfll.13.2.variant
mu.wx.ecd

751 SSCVIV [redacted] SPSDYKLMYFIIEWKHLNE
749 SSCVILS [redacted] LSPDYSLLYLVIEWKILNEODGMA [redacted]

wxsfll.13.2.variant 801 FIPIEKYQFSLYPIFMEGVGKPKIINSFTOODIEKHOSDAGLYVIVPVII

wxsfll.13.2.variant 851 SSSILLGLTLLISHORMKKLFWEDYPMPKNGSWAAGLNFOKPETFEHLFI

wxsfll.13.2.variant 901 KHTASVTCGPILLEPETISEDISVDTSWKKKDEMMPTTVVSLSTTDLEK

wxsfll.13.2.variant 951 GSYCISDOFNBYNFSEAEGTEVTYEDESOROPFVKYATLISNSKPSETGE

wxsfll.13.2.variant 1001 EOGLINSSVTKCFSSKNSPLKDSFSNBSWEIEAOAFFILSDONPHIISPH

wxsfll.13.2.variant 1051 LTFSEGLDELLKLEGNFPEENNDKKSIIYVLGYTSIKKRESGYLLTOKSRV

wxsfll.13.2.variant 1101 SCFFPAPCLFTDIRYLODSCSHFVENMINLGTSSKKTFAASYMPOFOTCST

wxsfll.13.2.variant 1151 QTHKIMEKKMCDLTV

Figure 4B

nu.wsx.ecd 1 GGGCCCCCCTCGAAGTCGACGGTATCGATAAGCTTGATATCGAATTCCG

nu.wsx.ecd 51 GCCGGGACACAGGTGGGACACTCTTTTAGTCCTCAATCCCTGGCGCGAGG

nu.wsx.ecd 101 CCACCCAAAGGCAACGACGACGACGGGCGTTTGGGGACCAGGCAGCAGAC

nu.wsx.ecd 151 TGGGGCGGTACCTGCGGAGAGCCACGCAACTTCTCCAGGCTCTGACTAC

nu.wsx.ecd 201 TTTGGAAACTGCCCGGGGCTGCGACATCAACCCCTTAAGTCCCGGAGGCG

nu.wsx.ecd 251 GAAAGAGGGTGGGTTGGTTTGAAAGACACAAGGAAGAAAAATGTGCTGTG

nu.wsx.ecd 301 GGGCGGGTTAAGTTTCCCACCCTCTTCCCCCTTCCCGAGCAAATTAGAAA

nu.wsx.ecd 351 CAAAACAAATAGAAAAGCCAGCCCTCCGGCCAACC
wsxfull.13.2.variant 1 GAATTCCTCGAGTCGAC

nu.wsx.ecd 401 GCGCCAAAGCGGAGCGCCAGCCGGAGCACTCCTTTAAAAGGATTGTGAGCG
wsxfull.13.2.variant 17 GCGCGGGCGTTAAAGCTCTCGTGGCATTATCCTTCAGTGGGGCT...ATTG

nu.wsx.ecd 451 GTGAGGAAAAAACCAGACCCGACCGAGGAATCGTTCGTGCAATCCAGGTG
wsxfull.13.2.variant 64 GACTGACTTTTCTTATGCTGGGATGTG...CCTTAGAGGATTATGGGTG

nu.wsx.ecd 501 TACACCTCTGAAGAAGATGATGTGTGAGAAATTCTATGTGGTTTTGTTA
wsxfull.13.2.variant 110 TACTTCTCTGAAGTAAGATGATTGTGCAAAATTCTGTGTGGTTTTGTTA

nu.wsx.ecd 551 CACTGGGAATTTCTTTATGTGATAGCTGCACCTTAACCTGGCATATCCAAT
wsxfull.13.2.variant 160 CATTGGGAATTTATTTATGTGATAACTGCGTTTAACCTGTTCATATCCAAT

nu.wsx.ecd 601 CTCTCCCTGGAATTTAAGTTGTTTGTGGAACCAACCAACCGATG
wsxfull.13.2.variant 210 TACTCCTTGGAGATTTAAGTTGTCTTGCAATGCCACCAATTCAACCTATG

nu.wsx.ecd 651 ACTCCTTTCTCTCACTGCTGGAAGCCCAAACAAATGCTCGGCTTTGAAG
wsxfull.13.2.variant 260 ACTACTTCCTTTGCTGCTGGAAGCTCTCAAAGATACTTCAAATTCGAAT

nu.wsx.ecd 701 GGGGCTTCTGAAGCAATTGTTGAAGCTAAATTTAATTCAAGTGGTATCTA
wsxfull.13.2.variant 310 GGACATTATGAGACAGCTGTTGAAGCTAAGTTTAATTCAAGTGGTACTCA

nu.wsx.ecd 751 CGTTCCTGAGTTATCCAAAACAGTCTTCCACTGTTGCTTTGGGAATGAGC
wsxfull.13.2.variant 360 CTTTYCTAACCTATCCAAAACAACCTTCCACTGTTGCTTTGGGAGTGAGC

Figure 5A

nu.wsx.eod 901 AAGGTCA ACTGCTCTGC ACTCA CAGACAACAC AGGG AAGACATG
 wsxfull.13.2.variant 410 AAGATAG AAACTGCTCTT ATGTG CAGACAACAT TGAAGGA AAGACATTT

nu.wsx.eod 851 GCTTCAGT AGTGAAGGCTTC AGTTTTTC GCCAGCTAGGTGT AAAC TGGGA
 wsxfull.13.2.variant 460 GTTTCACACAGTA AATTCTTT AGTTTTTC AACAATAGATGC AAAC TGGAA

nu.wsx.eod 901 CATAG AGTGCTGGATG AAAGGGGACTTGAC ATTATTCATCTGT CATATGG
 wsxfull.13.2.variant 510 CATAC AGTGCTGGCTA AAAGGA GACTTA AA ATTATTCATCTGT ATGTGG

nu.wsx.eod 951 AGCCATTACCTAAGAACCCCTTCAAGAATTATGACTCTAAGGTCCATCTT
 wsxfull.13.2.variant 460 AGTCATTATTTAAGAATCTATTCA GGAATTATACTATAAGGTCCATCTT

nu.wsx.eod 1001 TTATATGA TCTGCTGAAGT CATAGATGATTCCCTCTGCCCACTGAA
 wsxfull.13.2.variant 610 TTATATGT TCTGCTGAAGTGT TAGA GATTCA CCTCTGTTCCCAAAA

nu.wsx.eod 1051 AGACAGCTTTCAGACTGTCCAATGCAAC TGCAGTCTTCGGG...GATGTG
 wsxfull.13.2.variant 660 AGGCAGT TTTCA GATGTTCACTGCAAT TGCAGTGTTCATGAATGTGTG

nu.wsx.eod 1098 AATGTCATGTGCCAGTACCCAGAGCCAAACTCAACTACGCTCTTCTGATG
 wsxfull.13.2.variant 710 AATGTC TGTGCCGTGTGCCAAGCAGCCAAACTCAACGACA CTCTCTTATG

nu.wsx.eod 1148 TATTTGAAATCACATCTGCCGGTGTGAGTTTTCAGTCACCTCTGATGTC
 wsxfull.13.2.variant 760 TGTTTGA AAATCACATCTGTTGGA GTAAATTTTCAGTCACCTCTAATGTC

nu.wsx.eod 1198 ACTGCAGCCCATGCTGTGTGTGAAACCCGATCCACCCTTAGGTTTGCATA
 wsxfull.13.2.variant 810 AGTT CAGCCCATAAATATG GTGAAGCCTGATCCACCATTAGGTTTGCATA

nu.wsx.eod 1248 TGGAA GTCACAGATGATGGTAATTTAAAGATTCTTGGGACAGCCAACA
 wsxfull.13.2.variant 860 TGGAAATCACAGATGATGGTAATTTAAAGATTCTTGGTCCAGCCACCA

nu.wsx.eod 1298 ATGGCACCATTTCGGCTTCAATATCAGGTGAAATATTAGAGAATTCTAC
 wsxfull.13.2.variant 910 TTGGTACCATTTCCACTTCAATATCAAGTGAAATATTCAGAGAATTCTAC

nu.wsx.eod 1348 AA...TTGTAAAGAGAGGCTGCTGAAATTGTCTCAGCTACATCTCTGCTGG
 wsxfull.13.2.variant 960 AACAGTTATCAGAGAGGCTGACAAGATTGTCTCAGCTACATCTCTGCTAG

nu.wsx.eod 1398 TAGACAGTGTGCTTCCTGGATCTTCATATGAGGTCCAGGTGAGGAGCAAG
 wsxfull.13.2.variant 1018 TAGACAGTATACCTTCCTGGGTCTTCGTATGAGGTTCAGGTGAGGGCAAG

nu.wsx.eod 1448 AGACTGGATGGTT CAGGAGTCTGGAGTGAAGTTCACCTCAAGTCTT
 wsxfull.13.2.variant 1060 AGACTGGATGGCC CAGGAATCTGGAGTGAAGTACCTCTCTCTCTT

nu.wsx.eod 1498 TACCACACAAGATGTGTGTATTTCCACC AAAATTCTGACTAGTGTG
 wsxfull.13.2.variant 1110 TACCACACAAGATGT CATATAC TTTCCACCTAAAATTCTGACAAGTGTG

Figure 5B

nu.wsx.eod 1543 GATCGAACTTCTTTTCATTCGATCTACAAAGAAACAGATTGTCT
wsxfull.13.2.variant 1160 GGTCTAATGTTCTTTTCACTCGATCTATAAGAGGAAACAGATTGTCT

nu.wsx.eod 1595 TCCTCAAAACAGATAGTTTGGTGGAGGAATCTAGCTGAGAAATCCCTGA
wsxfull.13.2.variant 1210 CCTCAAAAGAGATTTGTTGGTGGATGAATTTAGCTGAGAAATTCCTCA

nu.wsx.eod 1643 GATACAGTACAGCAATTGTGAGTGACCGAGTTAGCAAAGTTACTTTCTCCA
wsxfull.13.2.variant 1260 AAGCCAGTATGATGTTGTGAGTGATCATGTTAGCAAAGTTACTTTTTC

nu.wsx.eod 1695 ACCTGAAAGCCAGCAGACCTCGAGGGAGAGTTTACCTATGACCCAGTGTAC
wsxfull.13.2.variant 1310 ATCTGAATGAACCAACCTCGAGGAAGTTTACCTATGATGCAGTGTAC

nu.wsx.eod 1743 TGCTGCAATGAGCAGGCGTGCCATCACCGCTATGCTGAATTATACGTGAT
wsxfull.13.2.variant 1360 TGCTGCAATGAACATGAATGCCATCATCGCTATGCTGAATTATATGTGAT

nu.wsx.eod 1795 CGATGTCAATATCAATATATCATGTGAAACTGACGGGTACTTAACATAAA
wsxfull.13.2.variant 1410 TGATGTCAATATCAATATCTCATGTGAAACTGATGGGTACTTAACATAAA

nu.wsx.eod 1843 TGACTTGCAGATGGTCAACCCAGCACAAATCCAATCACTAGTGGGAAGCACT
wsxfull.13.2.variant 1460 TGACTTGCAGATGGTCAACCCAGTACAATCCAGTCACTTGGGAAGCACT

nu.wsx.eod 1895 GTGCAGCTGAGGTATCACAGGTGCAGCCTGTATTTGTCTGATAGTCCATC
wsxfull.13.2.variant 1510 TTGCAATTTGAGGTATCATAGGAGCAGCCTTTACTGTTCTGATATTCATC

nu.wsx.eod 1943 TATTCATCCTACGTCTGAGCCCAAAACCTGGCTCTTACAGAGAGACGGCT
wsxfull.13.2.variant 1560 TATTCATCCATATCTGAGCCCAAGATTTGCTATTTGCAGAGTGATGGTT

nu.wsx.eod 1994 TTTATGAATGTGTTTTCCAGCCAATCTTCTATTATCTGGCTATACAATG
wsxfull.13.2.variant 1610 TTTATGAATGCATTTTTCCAGCCAATCTTCTATTATCTGGCTACACAATG

nu.wsx.eod 2044 TGGATTTCAGGATCAACCATTTCTTTAGGTTCACTTGACTCGCCACCAACGT
wsxfull.13.2.variant 1660 TGGATTAGGATCAATCCTCTCTTAGGTTCACTTGACTCTCCACCAACAT

nu.wsx.eod 2094 GTGTCCTTCCTGACTCCGTAGTAAAACCACTACCTCCATCTAACGTAAA
wsxfull.13.2.variant 1709 GTGTCCTTCCTGATTTCTGTGGTGAAGCCACTGCCTCCATCCAGTGTGAAA

nu.wsx.eod 2144 GCAGAGATTACTGTAAACACCTGGATTATTGAAAATATCTTGGGAAAAGCC
wsxfull.13.2.variant 1759 GCAGAAATTACTATAAACATTTGGATTATTGAAAATATCTTGGGAAAAGCC

nu.wsx.eod 2194 AGTCTTTCCGAGAAATAACCTTCAATTCCAGATTGATATGGCTTAAGTG
wsxfull.13.2.variant 1809 AGTCTTTCCAAGAAATAACCTTCAATTCCAGATTGCTATGGTTTAAGTG

nu.wsx.eod 2244 GAAAAGAAATACAATGGAAGACACATGAGGTATTCGATGCAAAAGTCAAAAG
wsxfull.13.2.variant 1859 GAAAAGAAATACAATGGAAGATGTATGAGGTATATGATGCAAAATCAAAAG

Figure 5C

wsxfull.13.2.variant 2709 AATATC CCAAAGAATGAAAAAGCTATTTC
wsxfull.13.2.variant 2759 CCAAGAATTGTTCTTGGGCACAAGGACTTAATTTTCAGAAGCCAGAAACG
wsxfull.13.2.variant 2809 TTTGAGCATCTTTTTATCAAGCATACAGCATCAGTGACATGTGGTCTCT
wsxfull.13.2.variant 2859 TCTTTTGGAGCCTGAAACAATTTTCAGAAGATATCAGTGTTGATACATCAT
wsxfull.13.2.variant 2909 GGAAAAATAAAGATGAGATGATGCCAACAACCTGTGGTCTCTCTACTTTCA
wsxfull.13.2.variant 2959 ACAACAGATCTTGAAGAAGGTTCTGTTTGTATTAGTGACCAGTTCAACAG
wsxfull.13.2.variant 3009 TGTTAACTTCTCTGAGGCTGAGGGTACTGAGGTAACCTATGAGGACGAAA
wsxfull.13.2.variant 3059 GCCAGAGACAACCCTTTGTTAAATACGCCACGCTGATCAGCAACTCTAAA
wsxfull.13.2.variant 3109 CCAAGTGAAACTGGTGAAGAACAAGGGCTTATAAATAGTTCAGTCAACCA
wsxfull.13.2.variant 3159 GTGCTTCTCTAGCAAAAATTCTCCGTTGAAGGATTCTTTCTCTAATAGCT
wsxfull.13.2.variant 3209 CATGGGAGATAGAGGCCCAGGCATTTTTTATATTATCAGATCAGCATCCC
wsxfull.13.2.variant 3259 AACATAATTTCAACACACCTCACATTCTCAGAAGGATTGGATGAACTTTT
wsxfull.13.2.variant 3309 GAAATTGGAGGGGAAATTTCCCTGAAGAAAATAATGATAAAAAGTCTATCT
wsxfull.13.2.variant 3359 ATTATTTAGGGGTCACCTCAATCAAAAAGAGAGAGAGTGGTGTGCTTTTG
wsxfull.13.2.variant 3409 ACTGACAAAGTCAAGGGTATCGTGCCCATTCACAGCCCCCTGTTTATTAC
wsxfull.13.2.variant 3459 GGACATCAGAGTTCTCCAGGACAGTTGCTCACACTTTGTAGAAAATAATA
wsxfull.13.2.variant 3509 TCAACTTAGGAACTTCTAGTAAGAAGACTTTTGCATCTTACATGCCTCAA
wsxfull.13.2.variant 3559 TTCCAAACTTGTTCTACTCAGACTCATAAGATCATGGAAAACAAGATGTG
wsxfull.13.2.variant 3609 TGACCTAACTGTGTAATTTCACTGAAGAAACCTTCAGATTTGTGTTATAA
wsxfull.13.2.variant 3659 TGGGTAAATATAAAGTGTAATAGATTATAGTTGTGGGTGGGAGAGAGAAAA

Figure 5E

T. 11 A G
 G G G A

T. 11 A G
 G G G A

T. 11 A G
 G G G A

T. 11 A G
 G G G A

T. 11 A G
 G G G A

T. 11 A G
 G G G A

T. 11 A G
 G G G A

T. 11 A G
 G G G A

1. 1. The first part of the report
 2. 2. The second part of the report
 3. 3. The third part of the report
 4. 4. The fourth part of the report
 5. 5. The fifth part of the report
 6. 6. The sixth part of the report
 7. 7. The seventh part of the report
 8. 8. The eighth part of the report
 9. 9. The ninth part of the report
 10. 10. The tenth part of the report
 11. 11. The eleventh part of the report
 12. 12. The twelfth part of the report
 13. 13. The thirteenth part of the report
 14. 14. The fourteenth part of the report
 15. 15. The fifteenth part of the report
 16. 16. The sixteenth part of the report
 17. 17. The seventeenth part of the report
 18. 18. The eighteenth part of the report
 19. 19. The nineteenth part of the report
 20. 20. The twentieth part of the report
 21. 21. The twenty-first part of the report
 22. 22. The twenty-second part of the report
 23. 23. The twenty-third part of the report
 24. 24. The twenty-fourth part of the report
 25. 25. The twenty-fifth part of the report
 26. 26. The twenty-sixth part of the report
 27. 27. The twenty-seventh part of the report
 28. 28. The twenty-eighth part of the report
 29. 29. The twenty-ninth part of the report
 30. 30. The thirtieth part of the report
 31. 31. The thirty-first part of the report
 32. 32. The thirty-second part of the report
 33. 33. The thirty-third part of the report
 34. 34. The thirty-fourth part of the report
 35. 35. The thirty-fifth part of the report
 36. 36. The thirty-sixth part of the report
 37. 37. The thirty-seventh part of the report
 38. 38. The thirty-eighth part of the report
 39. 39. The thirty-ninth part of the report
 40. 40. The fortieth part of the report
 41. 41. The forty-first part of the report
 42. 42. The forty-second part of the report
 43. 43. The forty-third part of the report
 44. 44. The forty-fourth part of the report
 45. 45. The forty-fifth part of the report
 46. 46. The forty-sixth part of the report
 47. 47. The forty-seventh part of the report
 48. 48. The forty-eighth part of the report
 49. 49. The forty-ninth part of the report
 50. 50. The fiftieth part of the report
 51. 51. The fifty-first part of the report
 52. 52. The fifty-second part of the report
 53. 53. The fifty-third part of the report
 54. 54. The fifty-fourth part of the report
 55. 55. The fifty-fifth part of the report
 56. 56. The fifty-sixth part of the report
 57. 57. The fifty-seventh part of the report
 58. 58. The fifty-eighth part of the report
 59. 59. The fifty-ninth part of the report
 60. 60. The sixtieth part of the report
 61. 61. The sixty-first part of the report
 62. 62. The sixty-second part of the report
 63. 63. The sixty-third part of the report
 64. 64. The sixty-fourth part of the report
 65. 65. The sixty-fifth part of the report
 66. 66. The sixty-sixth part of the report
 67. 67. The sixty-seventh part of the report
 68. 68. The sixty-eighth part of the report
 69. 69. The sixty-ninth part of the report
 70. 70. The seventieth part of the report
 71. 71. The seventy-first part of the report
 72. 72. The seventy-second part of the report
 73. 73. The seventy-third part of the report
 74. 74. The seventy-fourth part of the report
 75. 75. The seventy-fifth part of the report
 76. 76. The seventy-sixth part of the report
 77. 77. The seventy-seventh part of the report
 78. 78. The seventy-eighth part of the report
 79. 79. The seventy-ninth part of the report
 80. 80. The eightieth part of the report
 81. 81. The eighty-first part of the report
 82. 82. The eighty-second part of the report
 83. 83. The eighty-third part of the report
 84. 84. The eighty-fourth part of the report
 85. 85. The eighty-fifth part of the report
 86. 86. The eighty-sixth part of the report
 87. 87. The eighty-seventh part of the report
 88. 88. The eighty-eighth part of the report
 89. 89. The eighty-ninth part of the report
 90. 90. The ninetieth part of the report
 91. 91. The ninety-first part of the report
 92. 92. The ninety-second part of the report
 93. 93. The ninety-third part of the report
 94. 94. The ninety-fourth part of the report
 95. 95. The ninety-fifth part of the report
 96. 96. The ninety-sixth part of the report
 97. 97. The ninety-seventh part of the report
 98. 98. The ninety-eighth part of the report
 99. 99. The ninety-ninth part of the report
 100. 100. The hundredth part of the report

Figure 5F

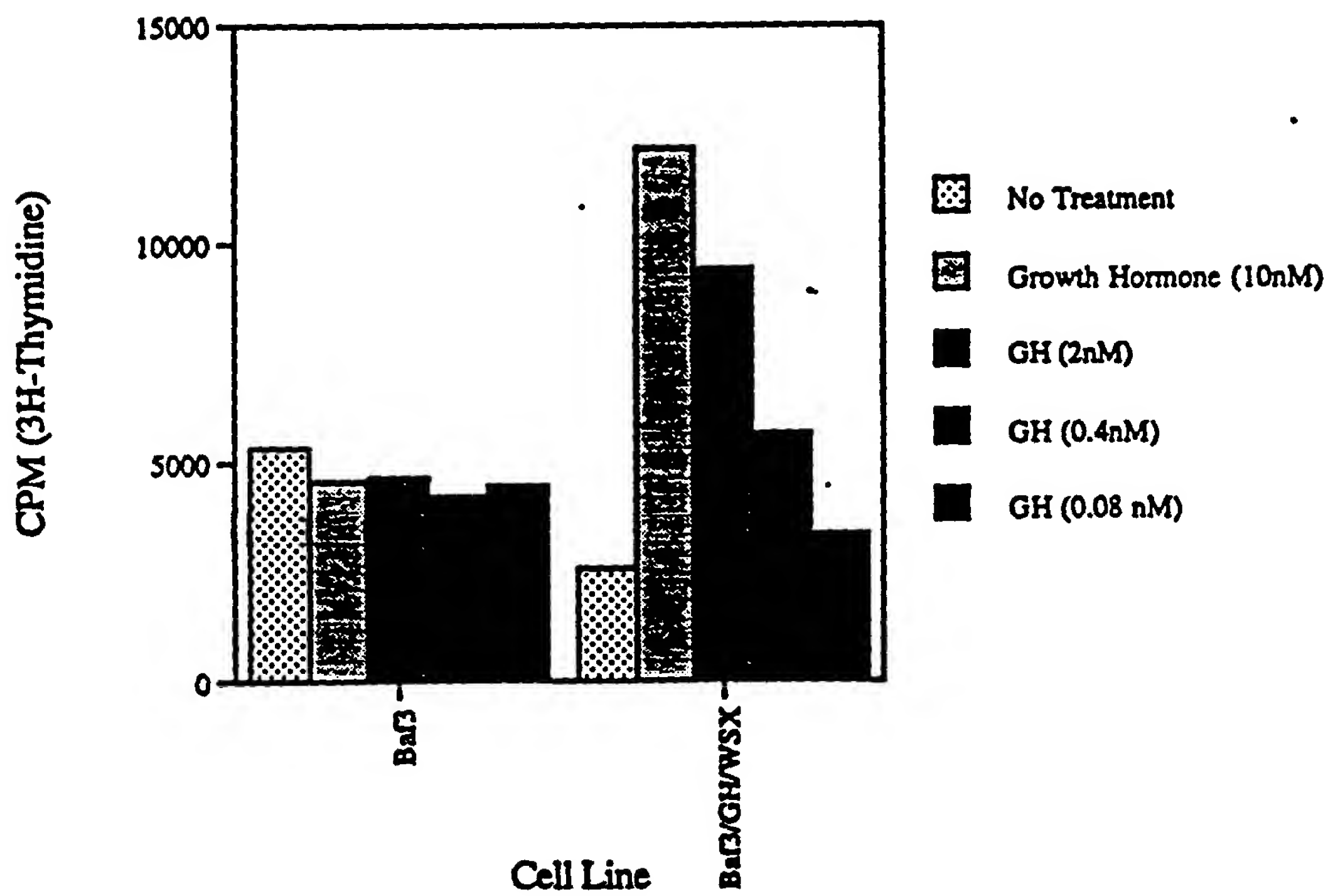


Figure 6

Murine

-213 Sense: GGGTTAAGTTTCCCACCC (SEQ ID NO:9)
 Antisense: GGGTGGGAACTTAACCC (SEQ ID NO:10)
 Scrambled: AGGATACAGTGGGATCCC (SEQ ID NO:11)

-99 Sense: GCCCGAGCACTCCTTTAA (SEQ ID NO:12)
 Antisense: TTAAAGGAGTGCTCCCGC (SEQ ID NO:13)
 Scrambled: GAGCGGCCCTGTTAGATA (SEQ ID NO:14)

-20 Sense: GTATACACCTCTGAAGAA (SEQ ID NO:15)
 Antisense: TTCTTCAGAGGTGTACAC (SEQ ID NO:16)
 Scrambled: ATGCGAGGCTACTTCTAT (SEQ ID NO:17)

+84 Sense: CTCTCCCTGGAAATTTAA (SEQ ID NO:18)
 Antisense: TTAAATTTCCAGGGAGAG (SEQ ID NO:19)
 Scrambled: ATTTGAAGGAGTTAAGCC (SEQ ID NO:20)

+211 Sense: AATTTAATTCAAGTGGTA (SEQ ID NO:21)
 Antisense: TACCAGTTGAATTAAATT (SEQ ID NO:22)
 Scrambled: GTATCACTTCATAATATA (SEQ ID NO:23)

Human

5L Sense: GATGGTCAGGGTGAACCTG (SEQ ID NO:24)
 Antisense: CAGTTCACCTGACCATC (SEQ ID NO:25)
 Scrambled: GAGGCGAATGTGCGGATT (SEQ ID NO:26)

+85 Sense: CTTAAATCTCCAAGGAGT (SEQ ID NO:27)
 Antisense: ACTCCTTGGAGATTTAAG (SEQ ID NO:28)
 Scrambled: AAGTCTTAAGCCAGACTT (SEQ ID NO:29)

-47 Sense: TCTAAGGCACATCCCAGC (SEQ ID NO:30)
 Antisense: GCTGGGATGTGCCTTAGA (SEQ ID NO:31)
 Scrambled: CGCAATGAATTGACCCCC (SEQ ID NO:32)

-20 Sense: TACTTCAGAGAAGTACAC (SEQ ID NO:33)
 Antisense: GTGTACTTCTCTGAAGTA (SEQ ID NO:34)
 Scrambled: GAATCACGGTAACTATCA (SEQ ID NO:35)

+185 Sense: CAGCTGTCTCATAATGTC (SEQ ID NO:36)
 Antisense: GACATTATGAGACAGCTG (SEQ ID NO:37)
 Scrambled: TTCGTCAAGCCATCTGAT (SEQ ID NO:38)

Figure 7

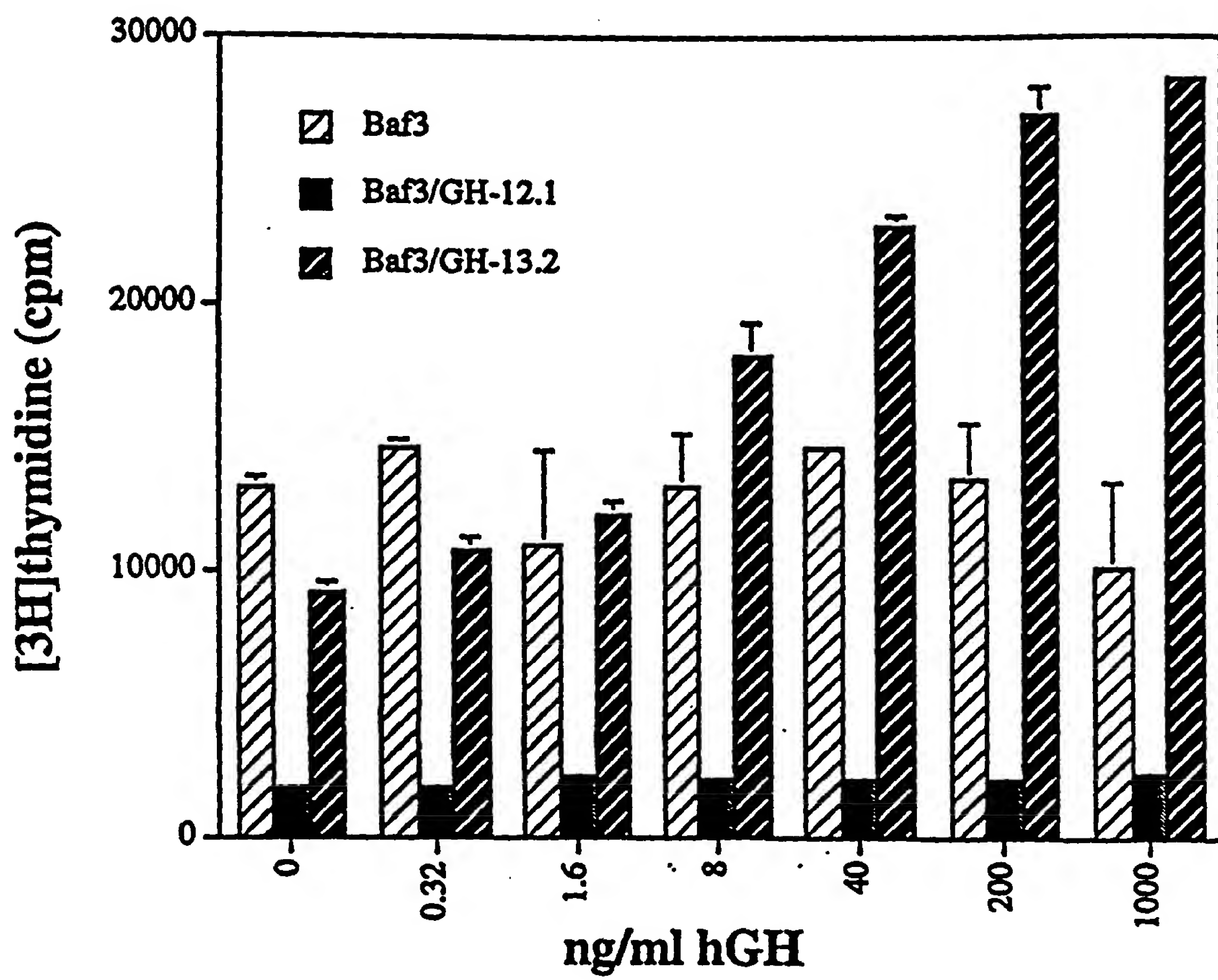


Figure 8

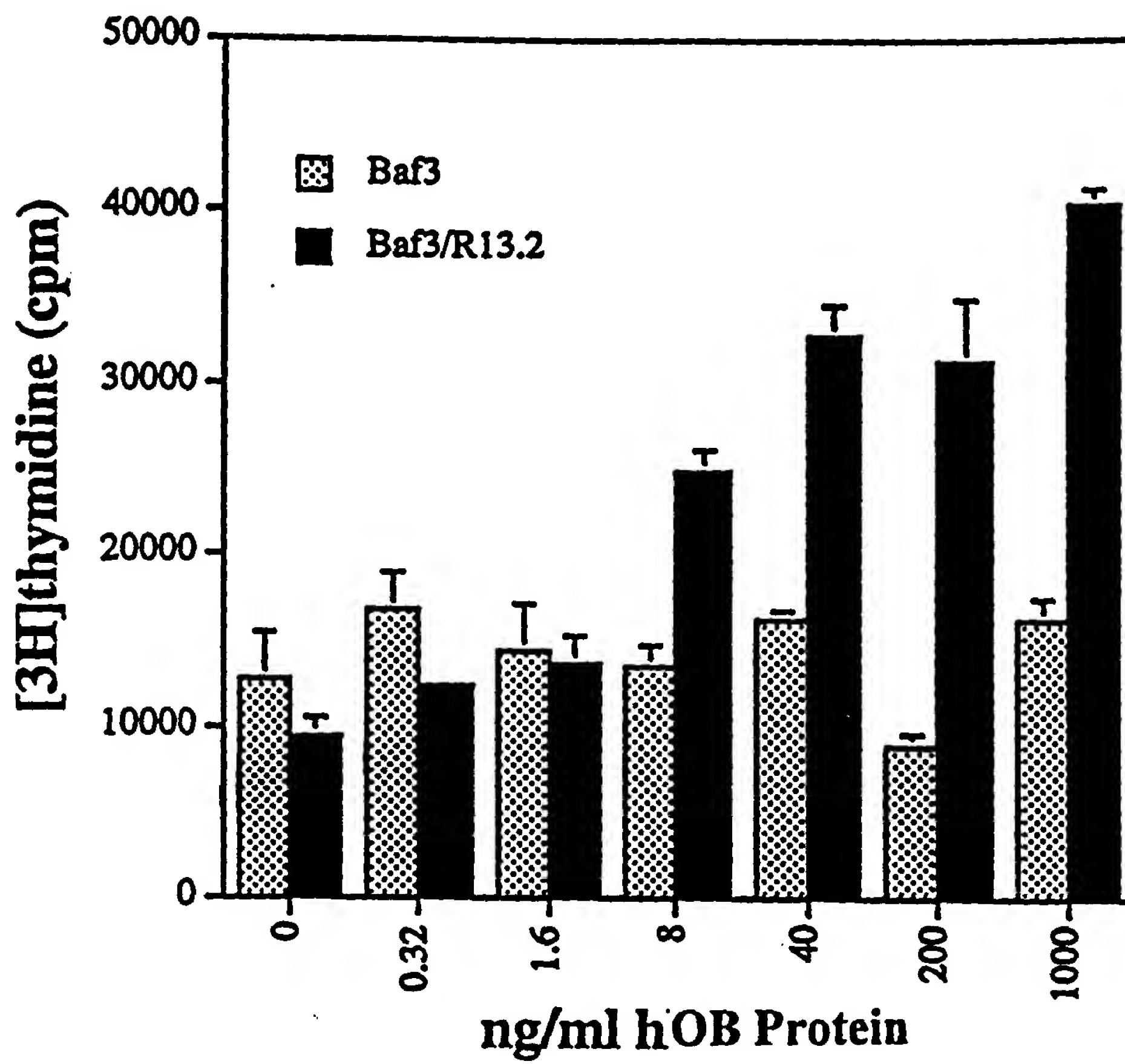


Figure 9

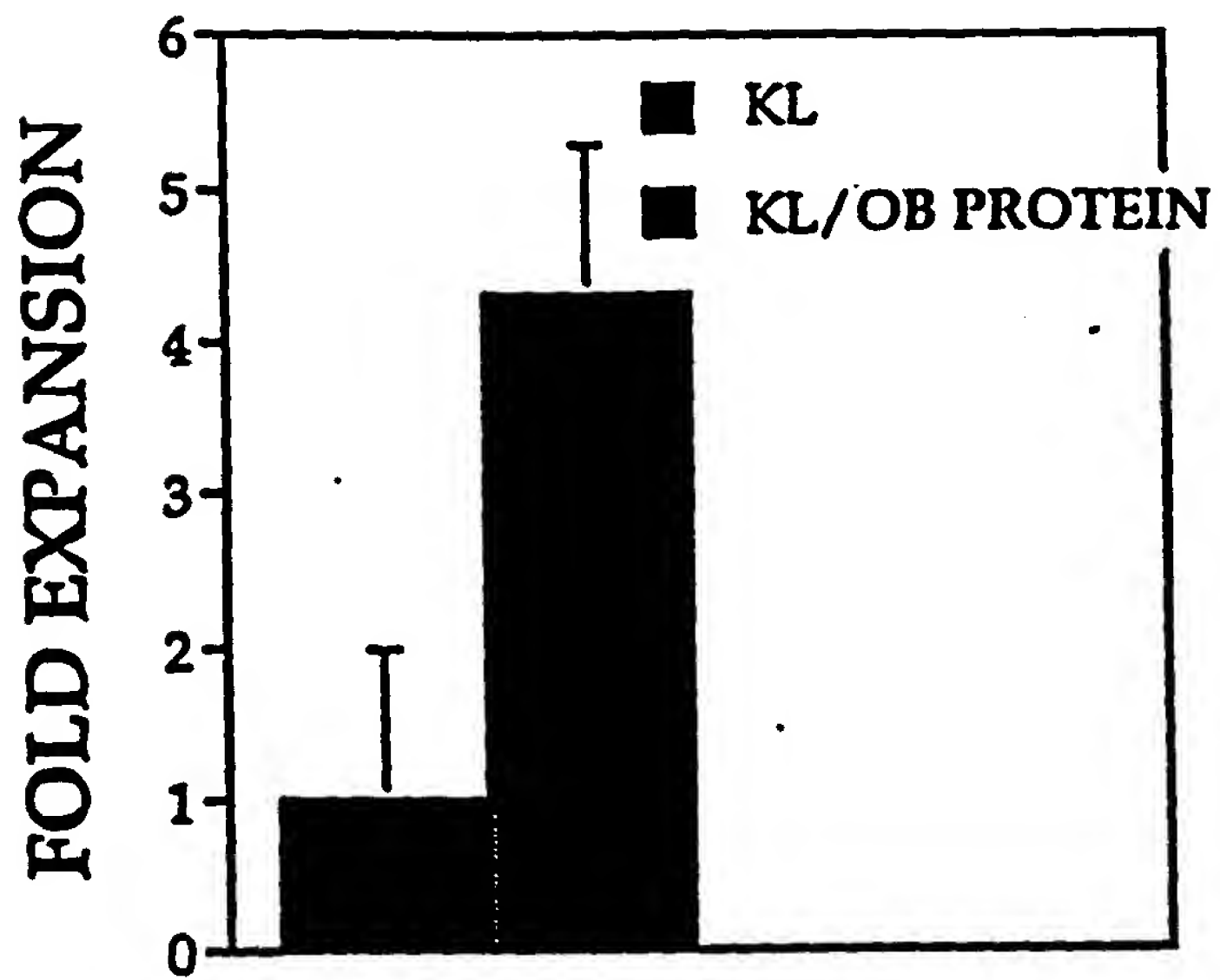


Figure 10A

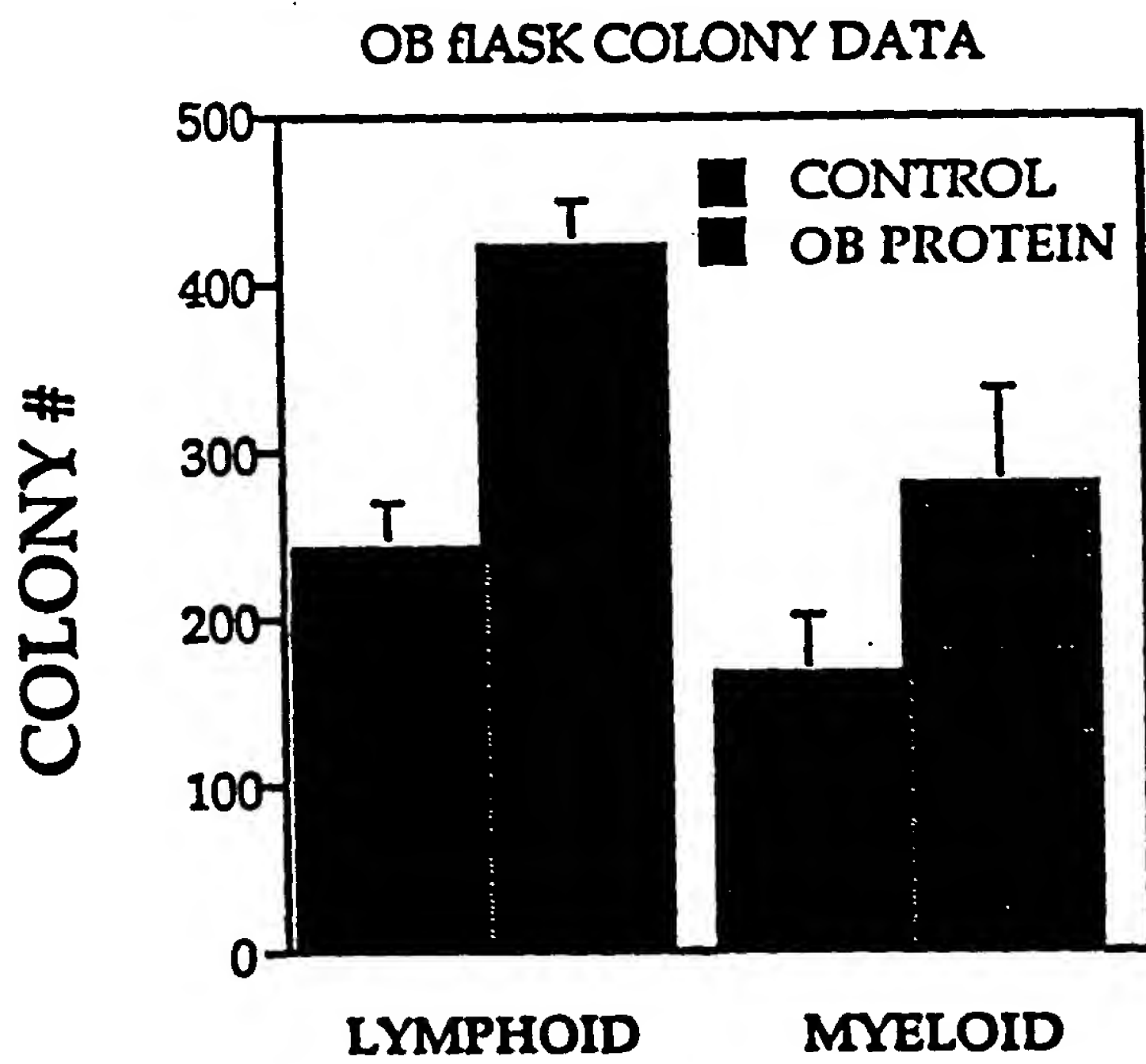


Figure 10B

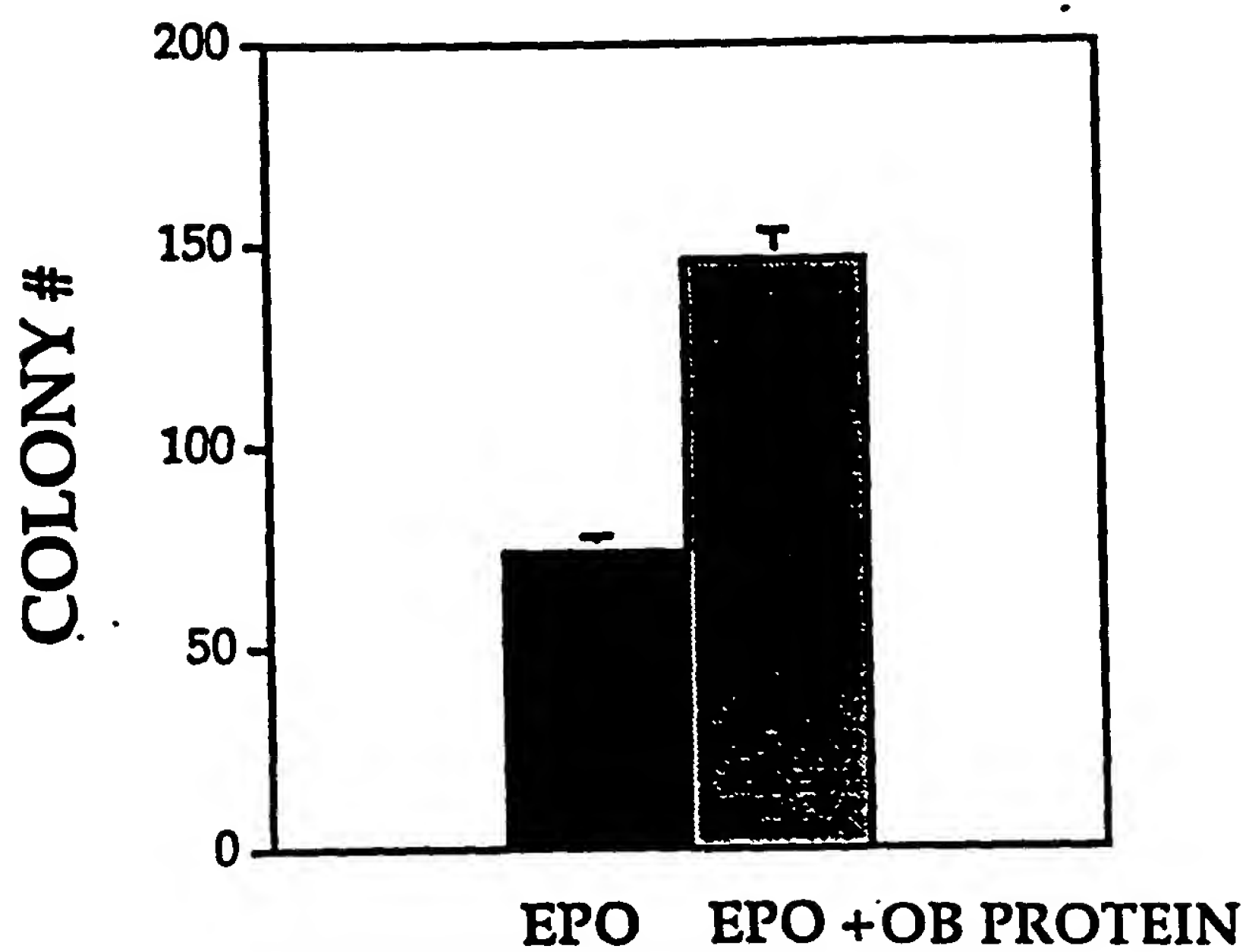


Figure 10C

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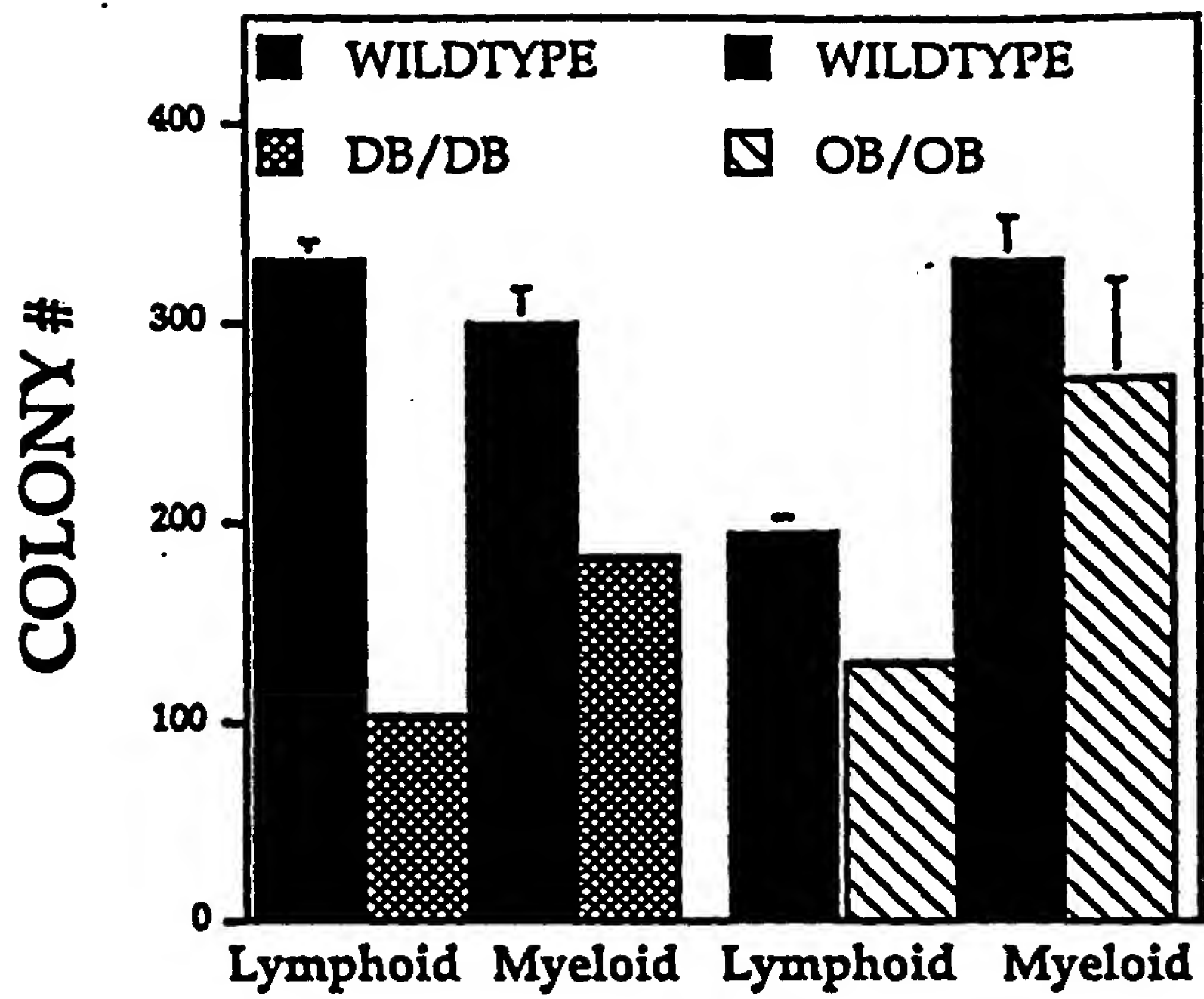


Figure 11

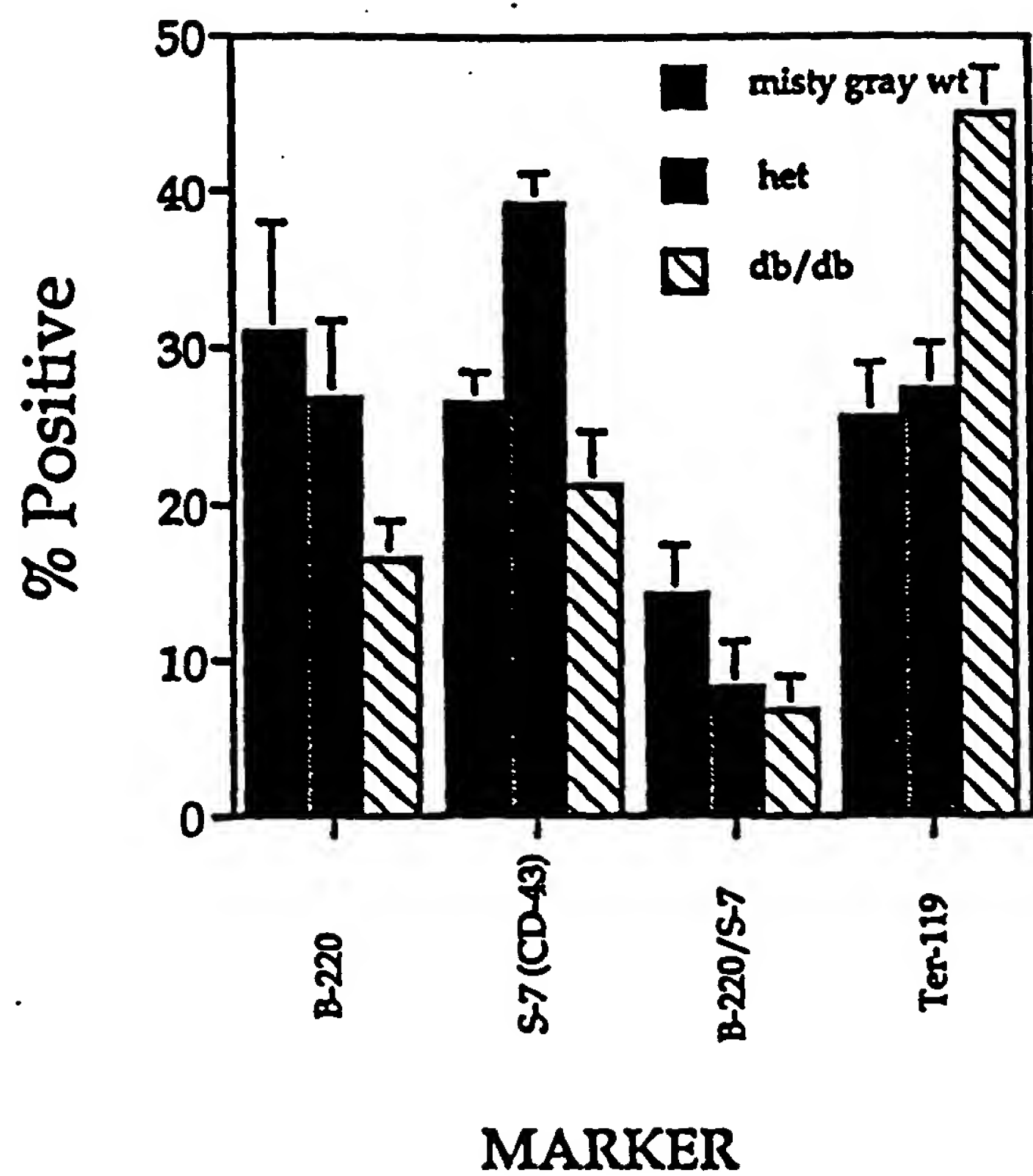


Figure 12A

Marker	Misty Gray WT (%)	HET (%)	DB/DB (%)
B220	~43	~42	~47
TER 119	~23	~18	~4

Figure 12B

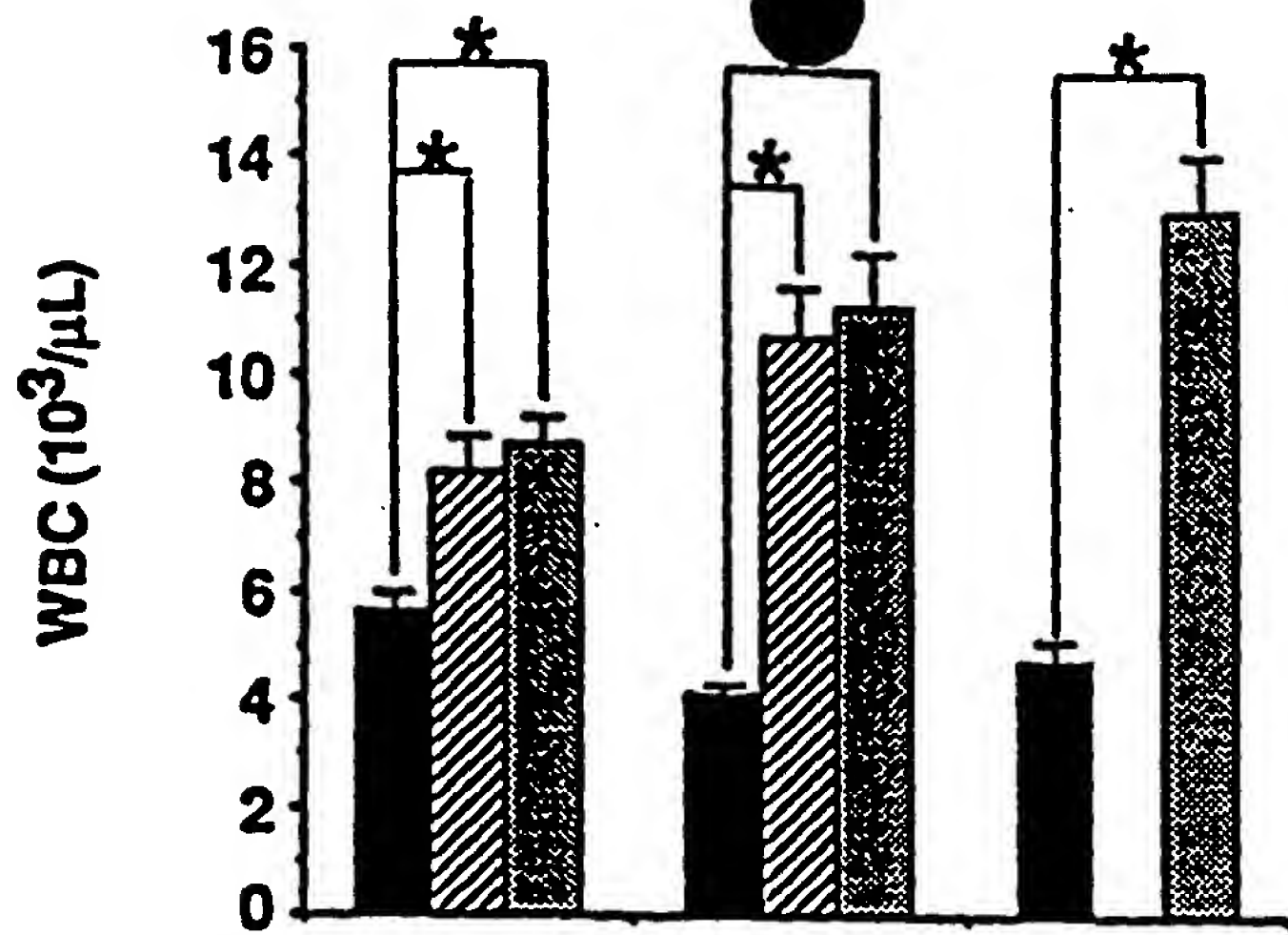


Figure 13A

■ db/db homozygous
 ▨ Misty Gray homozygous
 ▩ db/Misty Gray heterozygous

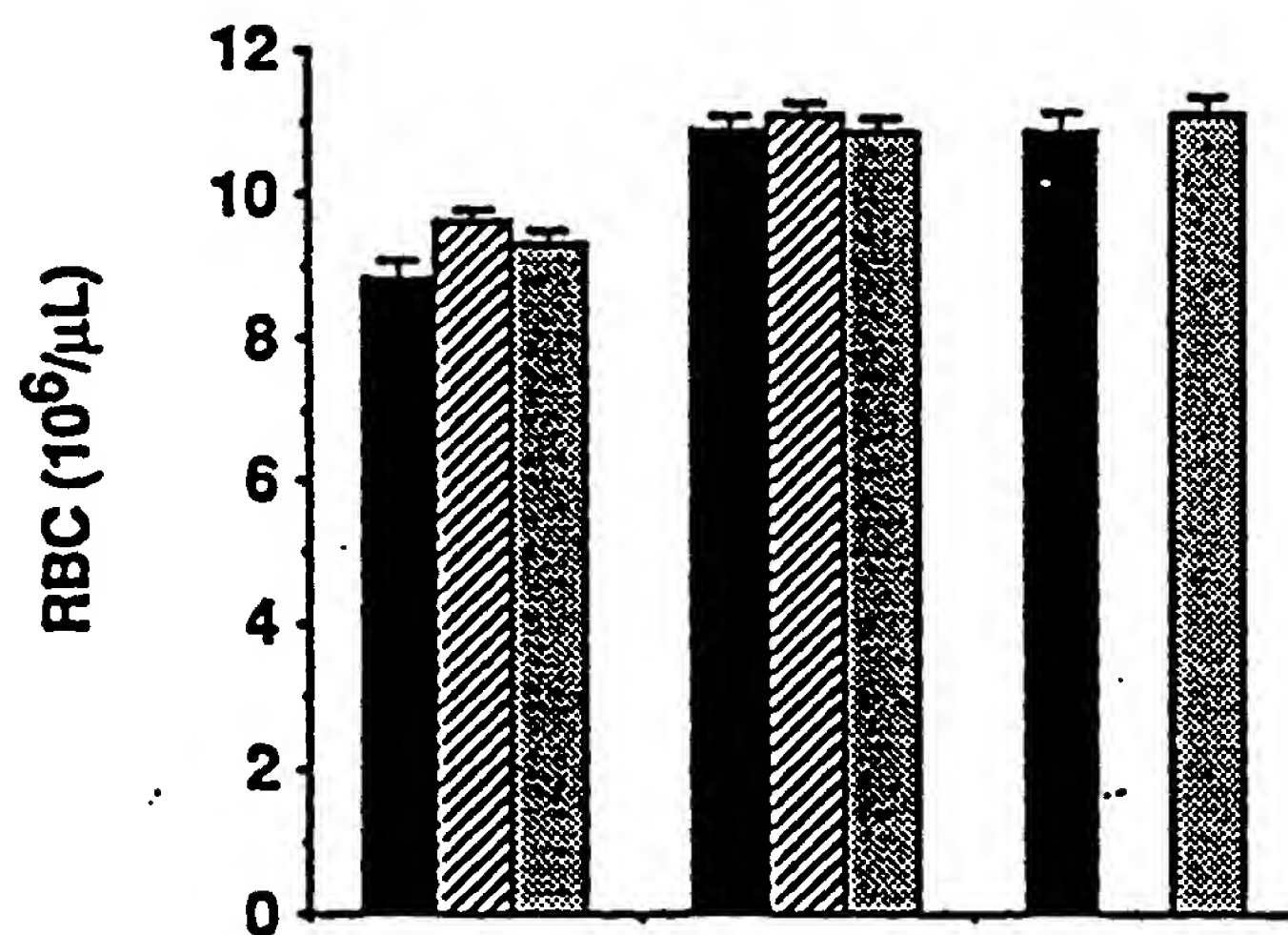


Figure 13B

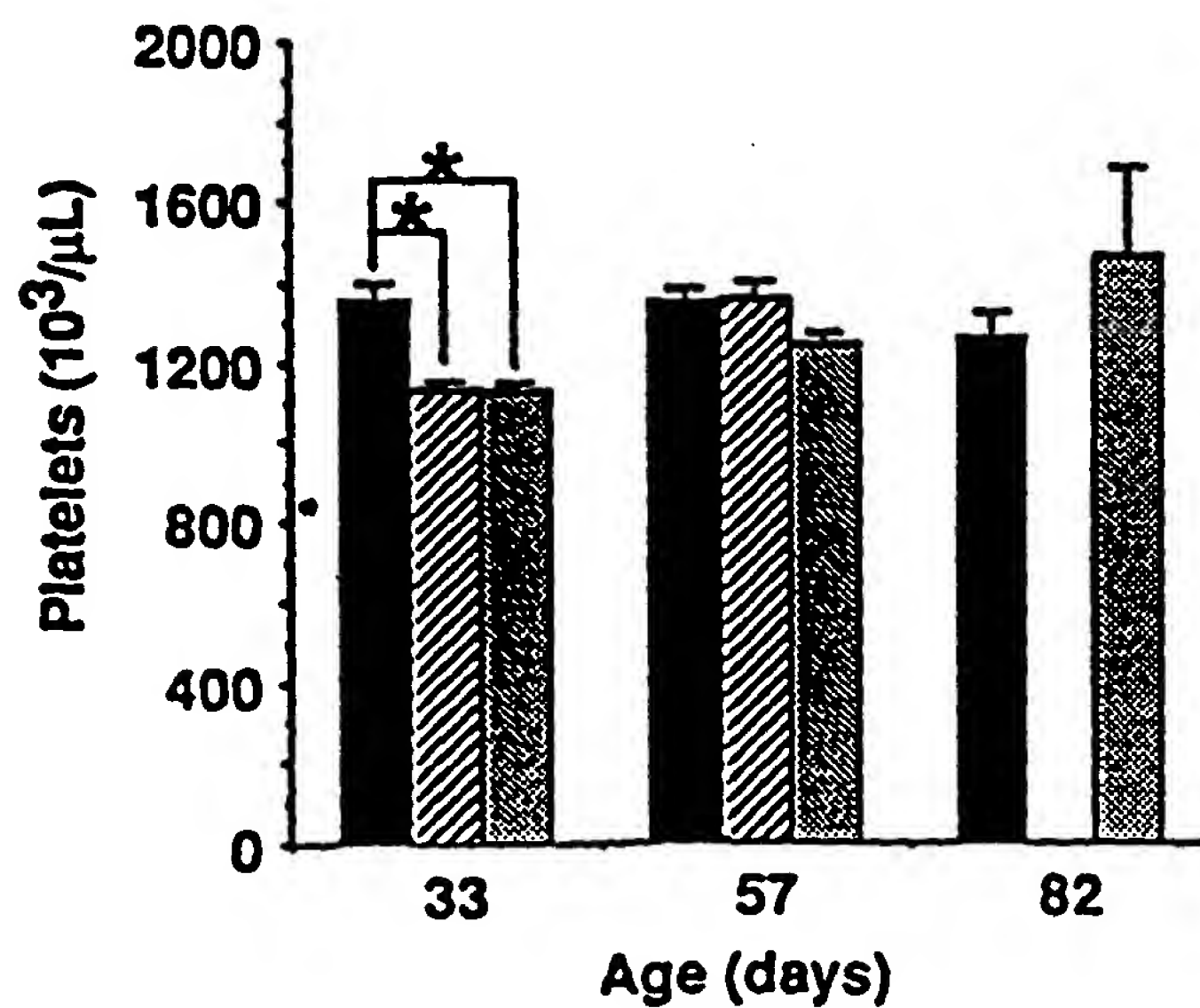


Figure 13C

Downloaded from www.sciencedirect.com

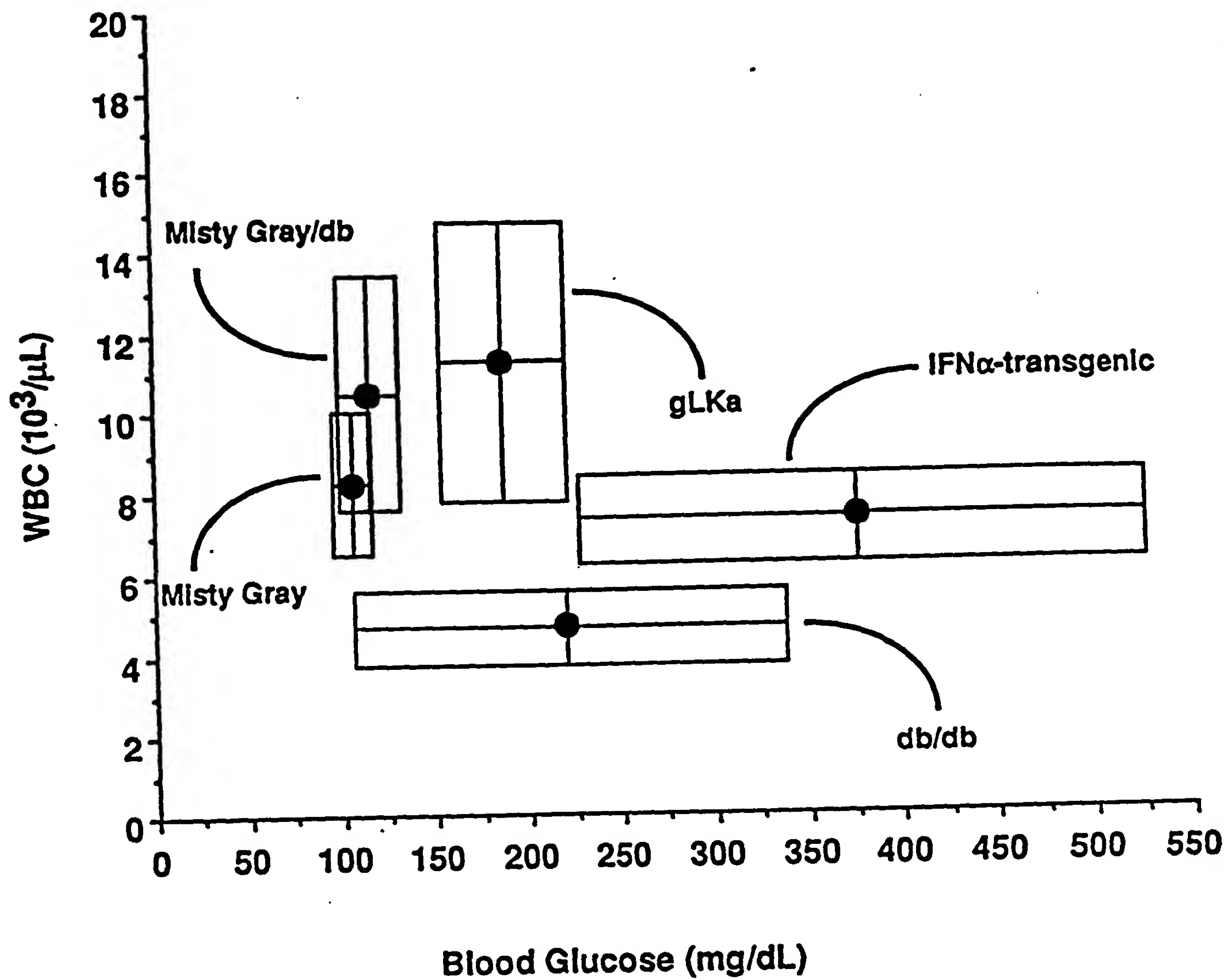


Figure 14

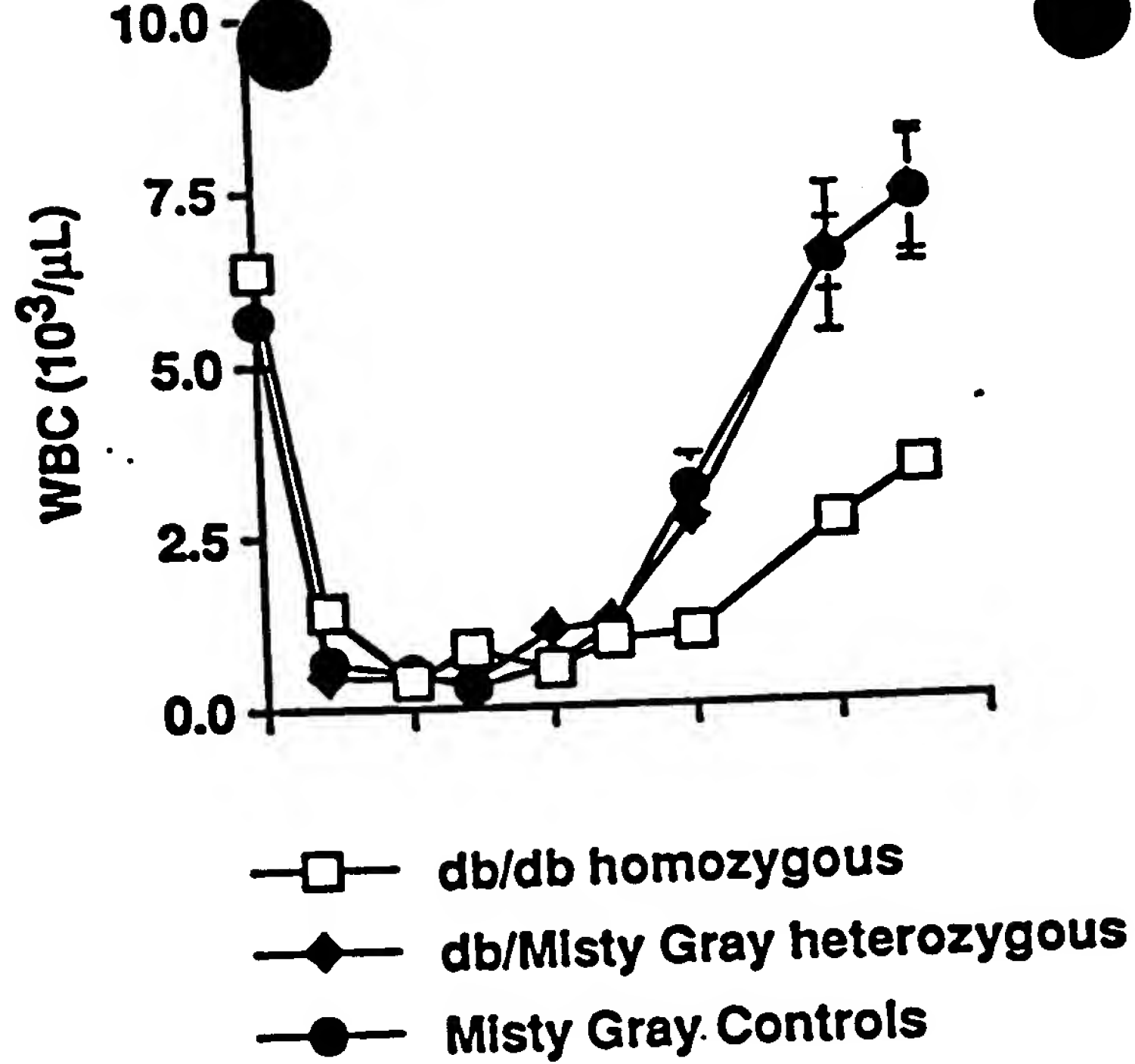


Figure 15A

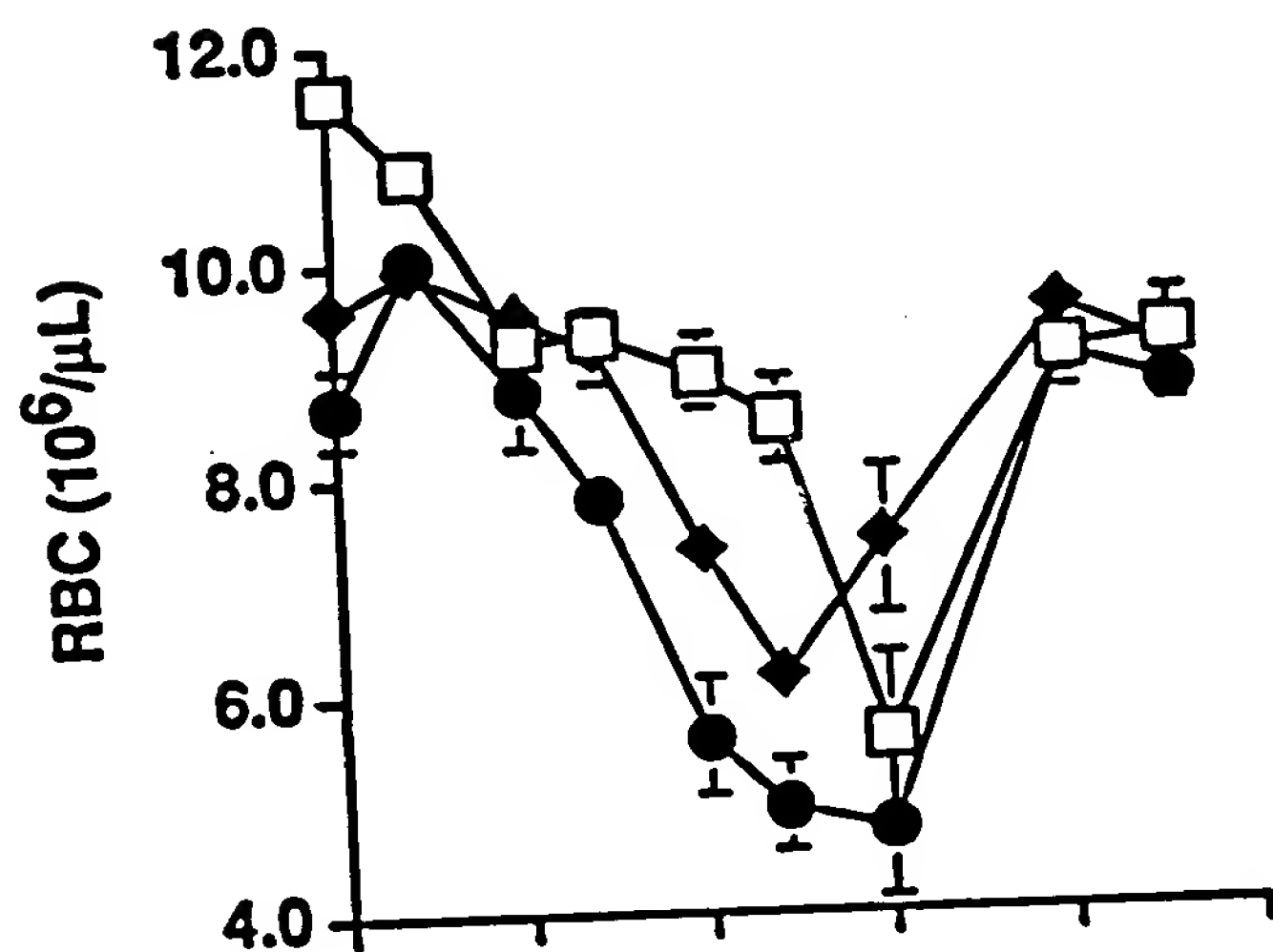


Figure 15B

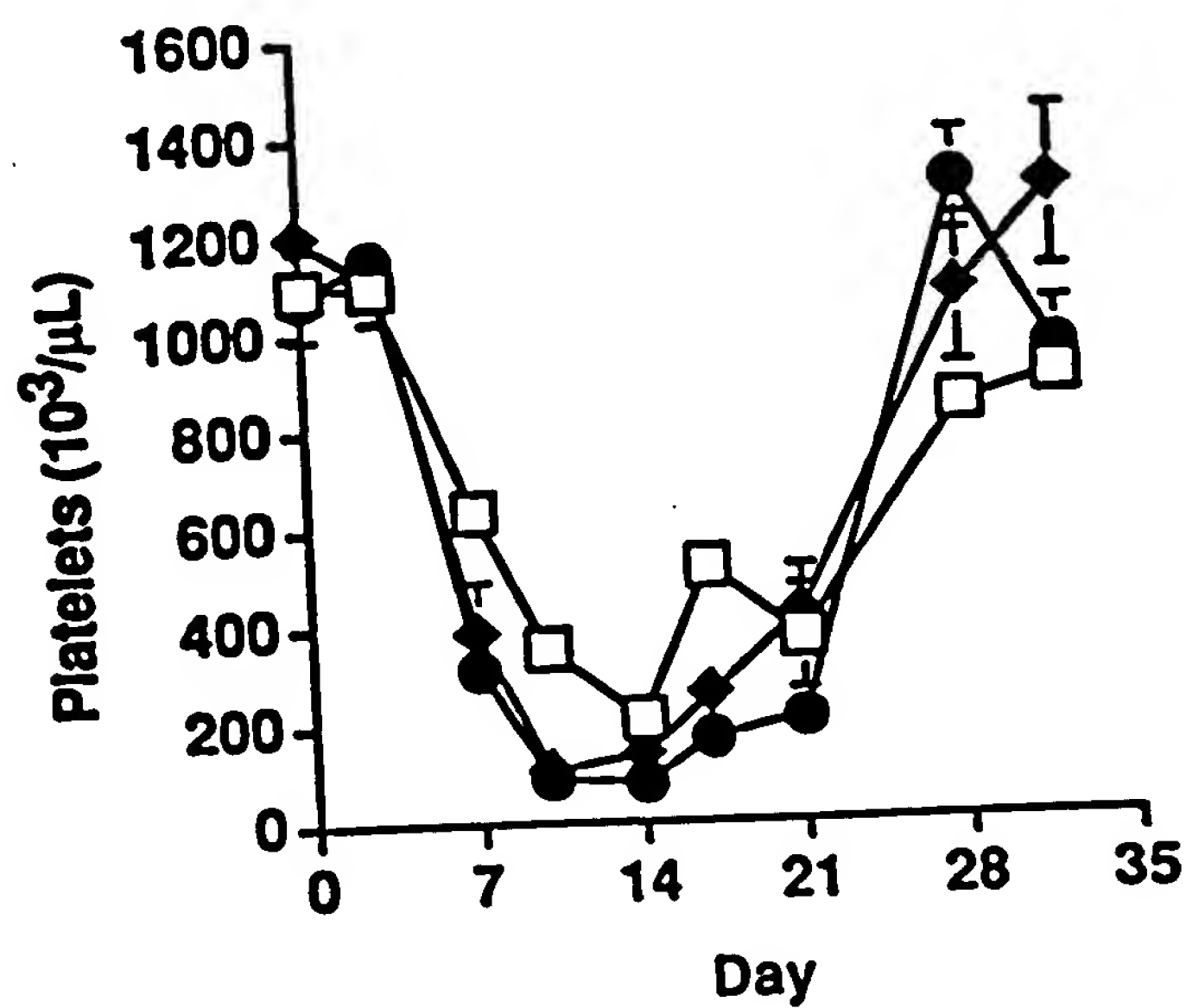


Figure 15C

```
> slices: std
> length: 7127 (circular)
```

Figure 16A

Restriction Enzyme Sites

401 GGTTTTCGCA GTACATCAAT GGGCTGGAT AGCGTTTCA CTCACGGCA TTTCCAACTC TCCACCCCAT TGACCTCAAT GGGAGTTTCT TTTGGCACCA
CCAAACCGT CATGTAGTTA CCGCACCTA TCGCAACT GAGTCCCT AAGGTTCA AGTGGGTA ACTGCAGTTA CCTCAACA AACCGTGT

maei
hnlI/acyI
uhalI/bsaII
uelII
nlaIV
hgICl
bani

501 AATCAACGG GACTTTCMA ATGTCTGA CAACTCCGC CCATTGACG AATGGCGG TAGGCGTGA CGTGGGAGG TCTATATAAG CAGAGCTCGT
TTAGTTGCC CTGAAGGTT TTACAGCAT GTGAGCGG GGTAACTGG TTTACCCGCC ATCCGCACAT GCCACCTCC AGATATATTC GTCTCGAGCA

rsal
csp6I
pleI
hlnfI
aclI
maeIII
aclI
hgaI
rsal
csp6I
mnII
banII

haeIII/palI

maeIII
aclI
hgaI
rsal
csp6I
mnII
banII

601 TTAGTGAACC GTCAGATCG CTGGAGACG CATCCACGCT GTTTGACCT CCATAGAGA CACCGGACC GATCCAGCTT CCGCGCCCGG GAACGGTCCA
AATCACTGG CAGTCTAGG GACCTCTGG GTAGTCCGA CAAACTGGA GGTATCTTCT GTGGCCCTGG CTAGTCCGA GCGCCCGCC CTTGCCACGT

maeIII
aclI
hgaI
rsal
csp6I
mnII
banII

maeIII
aclI
hgaI
rsal
csp6I
mnII
banII

701 TTGGACCGG GATTCCCGT GCCAAGAGTG ACGTAGTAC CGCTATAGA GTCTATAGG CCACCCCTT GGTTCGTTA GAACGGCGT ACAATTATA
AACCTTGGC CTAGGGGCA CGGTTCTAC TGCATTCTG CCGATATCT CAGATATCCG CGTGGCGGA CCGAAGCAAT CTTGCCCGA TGTAAATTAT

~sp6 promoter

sau96
 nlulv

mspl
 hpall
 scrfl
 ncll
 deav

sau3AI avall
 mboI/ndelI{dam-}
 nlalII caull mull nspl
 rcal dplI{dam+} ddel nsplII
 bspHI{dam-} asul eco8II maeIII
 mnlI dplII{dam-} bsu36I/mstII/sauI

styI
 bsajI

1501 CAAACCCCA GGACACCTC ATGATCTCCC GGACCCCTGA.GGTACATGCC GTGGTGGTGG ACCTGAGCCA CGAAGACCCCT GAGGTCAAGT TCAACTGGTA
 GTTTGGGTT CCTGTGGAG TACTAGAGG CCTGGGACT CCAGTGATAG CACCACCACC TGCACCTGGT GCTTCTGGGA CTCACGTTCA AGTTGACCAT
 196 LysProLy sAspThrLeu MetIleSera rGThrProGI uValThrCys ValValVala sPValSerHI sGluAspPro GluValLysP heAsnTrpTyr

drdI mnlI
 mboII ddel
 bpuAI eco8II
 bbsI bsu36I/mstII/sauI bsrI bsaAI
 csp6I

acil

thai

fnuDII/mvni

bstUI

bsh1236I

sacII/sstII

nspBII

kspl

dsal

bsajI

acil

.. mnlI

fnu4HI mnlI

csp6I

rsal

maeII

bsaAI

hphI

hgaI mnlI

balI apyI{dcm+}

ecoNI bstNI

scrFI

mval

ecorII

dsav

fnu4HI

bbvI avai

taqi

mnlI

cccagcccc

atcgagaaaa

ccatctccaa

agccnaagg

cagccccctag

gggtcgggg

tagctctttt

ggtagaggtt

tcggtttccc

gtcggggctc

ileglulyst

hrileserly

salalysgly

glnproargglu

rsal

csp6I

bsaI

atggtctcca

acaaagccct

cccagcccc

atcgagaaaa

ccatctccaa

agccnaagg

cagccccctag

gggtcgggg

tagctctttt

ggtagaggtt

tcggtttccc

gtcggggctc

ileglulyst

hrileserly

salalysgly

glnproargglu

glnproargglu

glnproargglu

glnproargglu

glnproargglu

glnproargglu

glnproargglu

glnproargglu

BcrFI
 nciI
 mspI
 hpaII
 dsav
 caulI
 xmaI/pspAI
 smaI
 scrFI
 nciI
 dsav
 caulI
 foki
 rsaI
 csp6I
 bspI407I
 1801 AACCCACAGGT GTACACCCCTG
 TTGGTGTCCA CATGTGGGAC GGGGTAGCG CCCTTCTCTA CTGGTTCTTG GTCCAGTCCG ACTGGACCGA CCAGTTTCCG AAGATAGGGT CGCTGTAGCG
 296 ProGlnVa lTyrThrLeu ProProSera rGluGluMe tThrLysAsn GlnValSerL eutHrCysLe uValLysGly PhetyrProS erAspIleAla

scrFI mval mval
 mval
 ecorII
 dsav
 bstNI
 apyI[dcm+]
 sexAI
 scrFI
 mval
 ecorII
 dsav
 bstNI
 apyI[dcm+]
 bspMI
 dsal
 bsII
 bsaJI

mspI
 hpaII
 fnu4HI
 bbvI
 1901 CGTGGAGTGG GAGAGCAATG GGCAGCCGGA GAACAACACTAC AAGACCACCG CTCCCGTGGT GGACTCCGAC GGCTCCTTCT TCCTCTACAG CAAGCTCACC
 GCACCTCACC CTCTCGTTAC CCGTGGGCTT TCTGTGATG TTCTGGTGG GAGGGCACGA CCTGAGGCTG CCGAGGAAGA AGGAGATGTC GTTCGAGTGG
 329 ValGluTrp GluSerAsnG lYGlnProGl uAsnAsnTyr LysThrThrP roProValLe uAspSerAsp GlySerPheP heLeuTyrSe rLysLeuThr

scrFI
 nciI
 mspI
 hpaII
 dsav
 mboII
 bpuAI
 maelI
 fnu4HI
 bspMI
 bbvI
 asp700
 nlaIII
 sfaNI
 mnlI
 nlaIII
 ppulOI
 nslI/avaIII
 2001 GTGGACAAGA GCAGGTGGCA GCAGGGGAAC GTCTTCTCAT GTCCCGTGTAT GCATGAGGCT CTGCACACCC ACTACACCGA GAAGAGCCCTC TCCTGTCTC
 CACCTGTCTT CGTCCACCGT CGTCCCTTG CAGAAGAGTA CGAGGCCACTA CGTACTCCGA GACGTGTGG TGATGTGGT CTTCCTGGAG AGGGACAGAG
 362 ValAspLys eRArgTrpGl nGlnGlyAsn ValPheSerC ysSerValMe tHisGluAla LeuHisAsnH lstrYThrGl nLysSerLeu SerLeuSerPro

scrFI
 nciI
 mspI
 hpaII
 dsav
 mboII
 mnlI
 bsmAI
 earI/ksp632I
 bsII
 cauII
 sau96I
 nlaIII
 fnu4HI
 haeIII/palI
 bglI
 styI
 sfiI
 ncol
 eaeI
 dsal
 cfrI
 bsaJI
 aluI
 haeIII/palI
 aluI
 acII
 asul
 2101 CGGGTAATG AGTGGACCGG CCTAGAGTC GACCTGCAGA AGCTTCTAGA GTCGACCTGC AGAAGCTTGG CCGCATGGC CCAACTTGT TATTGCAGCT
 GCCATTTC TCACGCTGCC GGGATCTCAG CTGGACCTCT TCGAGATCT CAGCTGGAGG TCTTCGMACC GCGGTACCG GGTGAACAA ATAACGTGGA
 396 GlyLys

^sv40 early poly A

Figure 16F


```

2201 TATATATGTTT ACATATTAAG CAATAGCATC ACATATTTCA CAATATTAAGC ATTTTTCATC ATGCATTTCTA GTTGTGCTTT GTCCAAACTC ATCAATGTAT
ATATTACCMA TGTATTATTC GTTATCGTAG TTTTAAAGT GTTTATTTCC TAAAAAAAGT GATTAAGAT CAACACCMA CAGTTTGAG TAGTTACATA

      maeIII      sfaNI      apuNI      bsmI      maeI
      sau3AI      mboI/ndeII{dam-}      dpnI{dam+}      dpnII{dam-}.      pvuI/bspCI      mcrI
      taqI{dam-}      tru9I      clal/bsp106{dam-}      sau3AI      mseI      mboI/ndeII{dam-}      dpnI{dam+}      xmiI      dpnII{dam-}      asel/asnI/vspi      bsaJI
      nlaIII      alwI{dam-}      asp700      hhaI/cfoI      nlaIII      mnlI      mnlI      acc65I      ddeI      acII
2301 CTTATCATGT CTGGATCGAT CGGGAATTAA TTCCGGCCGAG CACCATGCC TGAATAACC TCTCAAGAG GNACTTGTT AGGTACCTTC TGAGGCGGAA
GMAATAGTACA GACCTAGCTA GCCCTTAATT AAGCGCGTC GTGGTACCG ACTTTATTCG AGACTTTCTC CTTGAACCA TCCATGGAG ACTCCGCCCTT
      rsal      csp6I      nlaIV      kpnI      hgiCI      banI      asp718      mnlI
      acc65I      ddeI      acII

      nlaIV      sfaNI      scrFI      mvaI      mvaI      ecorII      dsav      bstNI      apyI{dcm+}      sexAI
      scrFI      ppulOI      nsII/avaIII      nlaIII      sphi      nsPI      nsphi
2401 AGAACCAGCT GTGMAATGTG TGTAGTAG TGTCCAGGC GTCCCCAGGC TCCCCAGCAG GCAGAGTAT GCAAGCATG CATCTCAATT AGTCAGCAAC
TCTTGGTGA CACCTTACAC ACAGTCATC CCACACCTT CAGGGGTCCG AGGGGTGTC CGTCTTCATA CGTTCGTAC GTAGAGTTAA TCAGTGGTTG
      aluI      pvuII      nspBII      nlaIV      scrFI      mvaI      mvaI      ecorII      dsav      bstNI      apyI{dcm+}      sexAI
      scrFI      ppulOI      nsII/avaIII      nlaIII      sphi      nsPI      nsphi
      fnu4HI      bglI      sfiI      haeIII/palI      mnlI      mnlI      ddeI
2501 CAGGTGTGA AGTCCCCAG GCTCCCCAGC AGGCAGAGT ATGCMAAGCA TGCATCTCA TTAGTCAGCA ACCATAGTCC CGCCCTAAC TCCGCCATC
GTCCACACCT TTCAGGGGTC CGAGGGGTC TCGTCTTCA TACGTTCTG ACCTAGAGT ATCAGTCTG ATCAGTCTG GCGGGGATG AGCGGGTAG
      fnu4HI      bglI      sfiI      haeIII/palI      mnlI      mnlI      ddeI
      haeIII/palI      bsaJI      mnlI      aluI
      mnlI      bsaJI      acII      haeIII/palI
2601 CCGCCCTNA CTCGCCCCAG TTCGCCCAT TCCGCCCC ATGCGTACT ATTTTCTT ATTTATGCAG AGCCGAGGC CGCTCGGC TCTGAGCTAT
GGCGGGATT GAGCGGGTC AAGCGGGTA AGCGCGGC TACCGACTCA TTAATAAATAA TAAATAGTC TCCGCTCC GCGAGCCGG AGACTCGATA
      aluI      acII      acII      acII      acII      acII      acII      acII      acII      acII      acII      acII      acII      acII      acII      acII
      fnu4HI      bglI      sfiI      haeIII/palI      mnlI      mnlI      ddeI
      haeIII/palI      bsaJI      mnlI      aluI
      mnlI      bsaJI      acII      haeIII/palI

```

Figure 16G

Figure 16J

[illegible]

hinPI
 hhai/cfoi
 thai
 fndII/mvni
 bstUI
 bsh1236I
 mspi
 hpall

nmII **bsaHI** **nlaIV** **acII**
3901 GAGGCTAACT GAAACACGGA AGGAGACAAAT ACCCGAAGGA ACCCGCGCTA TGACGGCAAT AATAAAGCG ACGGCTGTTC GGTGCTTTGT
CTCCGATTGA·CTTTGTGCGT TCCCTCTGTTA TGGCCTTCCCT TGGCGCGCAT ACTGCCGTTA TTTTCTGTG TATATTTGG TGCCACAAC CCAGCAACA

```
..      .  
scrfj.  
mval  
ecorij  
dsav  
bstni  
bsaji  
bsli
```

	acII	sau96I						thaI
	thaI	nlaIV					haeIII/palI	fnuDII/mvni
	fnuDII/mvni	bxaJI					sau96I	bstUI
	bstUI	avaII					asul	bshl236I
	bshl236I	asuI apyI(dcm+)	taqI				nlaIV	aciI mboII
4001	TCATAAACGC GGGGTTCCGT CCCAGGGCTC GCAC TCTGTC GATACCCCAC CGAGACCCCCA TTGGGGCCCA TACGCCCGCG TTCTTTCCTT TTCCCCACCC							
	AGTATTTCGC CCCCAMGCCA GGGTCCCGAC CGTGAGACAG CTATGGGGTG GCTCTGGGGT AACCCCGGTT ATCGCGGGCC AAAGMAGMA AAGGGGTGGG							

4501

scrFI nlaIV
 nciI hgiCI
 dsav scrFI
 cuuII mval
 bslI ccoRII
 bslI dsav
 bsajI bstNI
 sau96I bsajI
 nlaIV haeIII/palI
 avall eaeI
 asuI cfrI bsp1286
 ppuHI mspI apyl(dcm+)
 nlaIV hpall bmyI
 ecoO109I/draII bani
 CGGACCCCG GCCAGGGCAC CTGTCTAGC AGTTGCATGA TANAGAGAC AGTCATAAGT GCGGGACGA TAGTCATGCC CCGGGCCAC CGGAGGAGC
 GCGTGGGGC CCGTCCCGT GACAGGATGC TCAACGTACT ATTCTTCTG TCAGTATCA CCGCGCTGT ATCAGTACGG GCGGGGGTG GCCTCCTCG
 ~pBR322 sequence

fnu4HI
 haeIII/palI
 mcrI
 eagI/xmaIII/ecI XI
 eaeI
 notI
 fnu4HI
 acII
 mcrI bsrBI acII
 sfanI taqI cfrI sfanI
 bsrI TGACTGGGT GAAGGCTCTC AAGGGCATCG GTCGAGCGGC CGCATCAAG CAACCATAGT ACGCGCCTG TAGCGCGCA TTAAGCGCG CGGGTGTGT
 ACTGACCCAA CTTCGAGAG TTCCGTAGC CAGCTCGCCG CGGTAGTTC GTTGTATCA TCGCGGGAC ATCCCGCGT NATTCGGCC GCCACACCA
 . . .
 delta 3
 ~M13 ori

fnu4HI
 hinPI
 hhaI/cfoI
 thaI
 fnuDII/mvni
 bstUI
 bsh1236I
 maeIII bsvI maeIII
 CCAATGGCG TCGCACTGC CATGTGAACG GTCGCGGAT CCGCGCGGAT CCGCGCGGAG GAAAGCGNA GAAAGCGGAG AAGAGCGGT GCAAGCGCC GAAAGGGCA
 4701 GGTACGCGC AGCGTGACCG CTACACTTGC CAGCGCCCTA CCGCGCGCTC CTTTCCGCTT CTTCCTTCC TTCTCGCA CGTTCCCGCG CTTCCTCCCGT
 CCATGGCGG TCGCACTGC CATGTGAACG GTCGCGGAT CCGCGCGGAT CCGCGCGGAG GAAAGCGNA GAAAGCGGAG AAGAGCGGT GCAAGCGCC GAAAGGGCA

nlaIV
 hgiJII
 bsp1286
 bmyI
 banII
 nlaIV
 nlaIV
 hgiCI taqI
 bani mniI
 hphI
 maeII haeIII/palI
 draIII sau96I
 bsajI asuI
 4801 CAAGCTCTAA ATCGGGGGCT CCCTTAGGG TTCCGATTTA GTGCTTTAGC GCACCTCGAC CCCAANAAC TTGATTTGG TGATGTTCA CGTAGTGGC
 GTTCGAGATT TAGCCCCCGA GGAATATCCC AAGGCTAAT CACGAATGC CGTGGAGCTG GGTTTTTTG AACTAATCC ACTACCAAGT GCATCACC

maeII pIeI tru9I pIeI
 dnlI hinfI maeII maeII hinfI
 4901 CATGCCCTG ATAGACGGT TTTCCGCCCTT TGACGTTGA GTCCACCTTC TTTAATAGTG GACTCTTGT CCAAACTGGA ACAACACTCA ACCCTATCTC bslI avai
 GTAGCGGGAC TATCTGCCA AAGCGGGA ACTGCACCT CAGGTGCAG AATTATCAC CTCAGMACA GTTTGACCT TGTGTGAGT TGGGATAGAG

 tru9I maeII haeIII/palI aluI maeII apoI bsh1236I sspI
 5001 GGGCTATTCT TTGATTAT AAGGATTTT GCGATTTTG GCCTATTGGT TAAAAAATGA GCTGATTAA CAAAATTTA AGCGGAATTT TAACAAATA
 CCCGATAAGA AACTAATA TTCCCTAAA CGCTAAGC CGGATAACCA ATTTTACT CGACTAAT GTTTTAAAT TCGCTTAA ATTGTTTAT

 maeII mnlI haeIII/palI stuI haeI nlaIII tru9I rcaI maeII bspHI ddeI aatII
 5101 TTAACGTTA CAATTTATG GTGAGGCTT CGTGATAGC CTATTTTAT AGCTTAATCT CATGATAATA ATGCTTCTT AGACGTGAG TGGCCTTTT
 AATTGCAAT GTTAANTAC CAGTCCGA GCACTATGG GATAAANTA TCCAATTACA GTACTATTAT TACCAGAA TCTGCAGTCC ACCGTGAAAA
 ~delta 2a

 nlaIV aciI
 5201 CGGGGAATG TCGCGGAAC CCTATTCT TTATTTTCT AATACATTC AATATCTAT CCGCTCATGA GACATAACC CTGATAATG CTCAATAT
 GCGCTTTAC ACGCGCTTG GCGATAACA AATAAAGA TTTATGTAG TTTATACATA GCGGAGTACT CTGTTATTGG GACTATTAC GAAGTTATTA

 mboII earI/ksp632I hphI
 5301 ATTGAAGAAG GAAGAGTATG AGTATTCAAC ATTTCCGTG CCGCTTTTGG CGGATTTTG CCTTCTCTT TTTGCTCACC CAGAAACGCT
 TAAGTTTTT CTCTCATAC TCATAGTTG TAAGGCACA GCGGATTA GCGGAATAA GCGTAAC GCGTAAC AAACGAGTGG GTCTTTTCCA

 hgiAI/aspHI bsp1286 sau3AI mboI/ndeII(dam-) bspBI bsaBI
 5401 GGTCAAGTA AAGATGCTG AAGATCAGT GGTGCACCA GTGGTTACA TCGAAGTGA TCTCAACAGC GGTAGATCC TTGAGAGTT TCGCCCGGA
 CCACTTTCAT TTCTACGAC TTCTAGTCA CCCACGTCT CACCAATGT AGCTTGACCT AGAGTTGCTG CCATTCTAGG AACTCTCAA ACCGGGCTT



Figure 16N

Restriction Enzyme Sites

5501 **maeII** **psp1406I** **xmniI** **asp700** **hglAI/aspHI** **bsp1286** **tru9I** **bsiHKA1** **mseI** **bmyI** **ahaIII/draI** **acII** **thai** **fnuDII/mvnI** **bstUI** **bsh1236I** **hinPI** **hhaI/cfoI** **ahaII/bsaHI** **bcgI** **mcrI** **fnu4HI** **acII** **ncII** **mspI** **hpall** **dsaV** **cauII** **hinII/acyI** **hgal** **actCGGCTTC** **CAATGATGAG** **CACCTTTTAA** **GTCTGCTAT** **GTGGCGCGGT** **ATTATCCCGT** **GATGAGCGCG** **GGCAAGAGCA** **ACTCGGTGCG** **CGCATACACT** **CTTGCAAAAG** **GTACTACTC** **GTGAAATTT** **CAAGACGATA** **CACCGCGCCA** **TAATAGGCA** **CTACTGCGC** **CGTTCTGT** **TGAGCCAGCG** **CGGTATGTGA**

5601 **ddel** **rsal** **csp6I** **bsrI** **scaI** **hphI** **maeIII** **sfaNI** **fokI** **nlaIII** **bbvI** **nlaIII** **actCGGCTTC** **TGACTTGGT** **GAGTACTCAC** **CAGTCACAGA** **AAAGCATCTT** **ACGGATGCA** **TGACAGTAAG** **AGAAATATC** **AGTGTGCGCA** **TAACCATGAG** **TAAAGTCTT** **ACTGAACCA** **CTCATGAGTG** **GTCACTGTCT** **TTTCTAGAA** **TGCCTACCGT** **ACTGTCTATC** **TCTTAATACG** **TCACGACCGT** **ATTGGTACTC**

5701 **haeIII/palI** **eaeI** **cfrI** **fnu4HI** **acII** **sau96I** **avaII** **sau3AI** **asul** **mbol/ndelI(dam-)** **dpnI(dam+)** **dpnII(dam-)** **pvuI/bspCI** **mcrI** **mnII** **alul** **acII** **actCGGCTTC** **TACTTCTGAC** **AACGATCGG** **AGCTAACCGC** **TTTTTTGAC** **AACATGGGG** **ATCATGTAAAC** **TGGCTTGAT** **ACTATTGTGA** **CGCGGTTGA** **ATGAAGACTG** **TTGCTAGCCT** **CCTGGCTTCC** **TGGATTGGCG** **AAAAACGTG** **TTGTACCCCG** **TGTATACATG** **ACCGGAACTA**

5801 **nlaIV** **alul** **mspI** **hpall** **bsaHI** **truu9I** **mseI** **aseI/asnI/vspI** **mnII** **actCGGCTTC** **ACTTGGTAT** **GGTTGCTG** **TGCACTGTG** **GTGCTACCGT** **CGTCTTACC** **GTGTTGCA** **CGCGTTTGT** **AATTGACCGC** **CGGAGCTGAA** **TGAAGCCATA** **CCAAAGCAG** **AGCGTGACAC** **CACGATGCCA** **GCAGCAATGG** **CAACCAAGCTT** **GGGCAAACTA** **TTAACTGGCG** **GCAACCCCTTG** **GCCTGACTT**

5901 **alul** **ncII** **rmal** **dsaV** **maeI** **cauII** **tru9I** **mseI** **aseI/asnI/vspI** **mnII** **actCGGCTTC** **ACTTGGTAT** **GGTTGCTG** **TGCACTGTG** **GTGCTACCGT** **CGTCTTACC** **GTGTTGCA** **CGCGTTTGT** **AATTGACCGC** **CGGAGCTGAA** **TGAAGCCATA** **CCAAAGCAG** **AGCGTGACAC** **CACGATGCCA** **GCAGCAATGG** **CAACCAAGCTT** **GGGCAAACTA** **TTAACTGGCG** **GCAACCCCTTG** **GCCTGACTT**

6001 **mspI** **hpall** **cfr10I** **nlaIV** **hphI** **gsl/bpmI** **actCGGCTTC** **ACTTGGTAT** **GGTTGCTG** **TGCACTGTG** **GTGCTACCGT** **CGTCTTACC** **GTGTTGCA** **CGCGTTTGT** **AATTGACCGC** **CGGAGCTGAA** **TGAAGCCATA** **CCAAAGCAG** **AGCGTGACAC** **CACGATGCCA** **GCAGCAATGG** **CAACCAAGCTT** **GGGCAAACTA** **TTAACTGGCG** **GCAACCCCTTG** **GCCTGACTT**


```

scrFI      bsp1286      mspI      hpaII      fnu4HI      hpaII      fnu4HI
ncII       bsiHKA1      bmyI      apaLI/an I      alw4LI/an I      aluI
mspi       hpaII       hpaII       hpaII       hpaII       hpaII
dsav       cauII       cauII       cauII       cauII       cauII
pleI       pleI       pleI       pleI       pleI       pleI
hinfi      hinfi      hinfi      hinfi      hinfi      hinfi
6601 TAAGTCGTGT CTTACCGGGT TGGACTCAAG ACCGATAGTTA CCGGATAAGG CCGAGCGGTC GGGCTGAACG GGGGTTCTGT GCACACAGCC CAGCTTGGAG
ATTACGCACA GAATGGGCGA ACCTGAGTTC TGCTATCAT TGGCTATTCC GCGTCGCCAG CCGGACTTGC CCGCAGCA GGTGTGTGG GTGGAACCTC

..

ddel       scfI
6701 CGACGACCT ACACCGAAT GAGTACCTA CAGCGTGAGC.ATTGAGAAAG CCGCAGCGCTT CCGGAGGGA GAAGCGGGA CAGGTATCCG GTAAGCGGCA
GCTTGCTGGA TGTGGCTTGA CTCTATGGAT GTCCCACTCG TAACTCTTTC GCGGTCCGAA GGGCTTCCCT CTTCGCCCT GTCCATAGGC CATTGCCCGT

..

scrFI      mvaI      mvaI      mvaI      mvaI      mvaI
ecoRII     ecoRII     ecoRII     ecoRII     ecoRII
dsav       dsav       dsav       dsav       dsav
bstNI      bstNI      bstNI      bstNI      bstNI
bsaJI      bsaJI      bsaJI      bsaJI      bsaJI
hinPI      mnlI      aluI      hhaI/cfoI      hhaI/cfoI      hhaI/cfoI
hhaI/cfoI      hhaI/cfoI      hhaI/cfoI      hhaI/cfoI      hhaI/cfoI
6801 GGTGCGAAC AGGAGAGCCG ACCAGGAGC TTCCAGGGGG AAACGCCCTGG TATCTTTATA GTCTGTGCGG GTTTCGCCAC CTCGACTTG AGCGTGGATT
CCCAGCCTTG TCTCTGCGG TGCTCCCTCG AAGTCCCCC TTTCGGGACC ATAGAAATAT CAGGACAGCC CAAGCGGTG GAGACTGAAC TCGCAGCTAA

..

aluI      pvuII      nspBI
6901 TTTGTGATGC TCGTCAGGGG GCGGAGCCT ATGGAAAAC GCCAGCTGCG ACCGACAGCTT TCCGACTGG AAAGCGGGA GTGAGCGCAA CGCAATTAT
AAACACTAGG AGCAGTCCC CCGCTGGA TACCTTTTG CCGTCGACCG TGCTGTCCAA AGGCTGACC TTTCGCCCT CACTGCGGT GCGTTAATTA

..

scrFI      mvaI      ecoRII      dsav      nlaIV      bstNI      hgiCI      apyI(dcm+)      banI      bsaJI
6901 GTGAGTTACC TCACTCATTG GGCACCCGAG GCTTTACACT TTATGCTTCC GGCTCGTATG TTGTGTGGA TTGTGAGCGG ATACAAATT CACACAGGAA
CACTCAATGG AGTGAGTAAT CCGTGGGTC CGAATGTGA MATCGAAG CCGAGCATAC MACACACCTT AACACTGCGC TATTGTTAA GTGTGTCTT

..

tru9I      msel      aseI/asnI/vspI      xmnI
7001 ACAGCTATGA CCATGATTAC GAATTAA
TGTCGATACT GGTACTAATG CTTAATT

..

aluI      nlaIII      asp700
7101 ACAGCTATGA CCATGATTAC GAATTAA
TGTCGATACT GGTACTAATG CTTAATT

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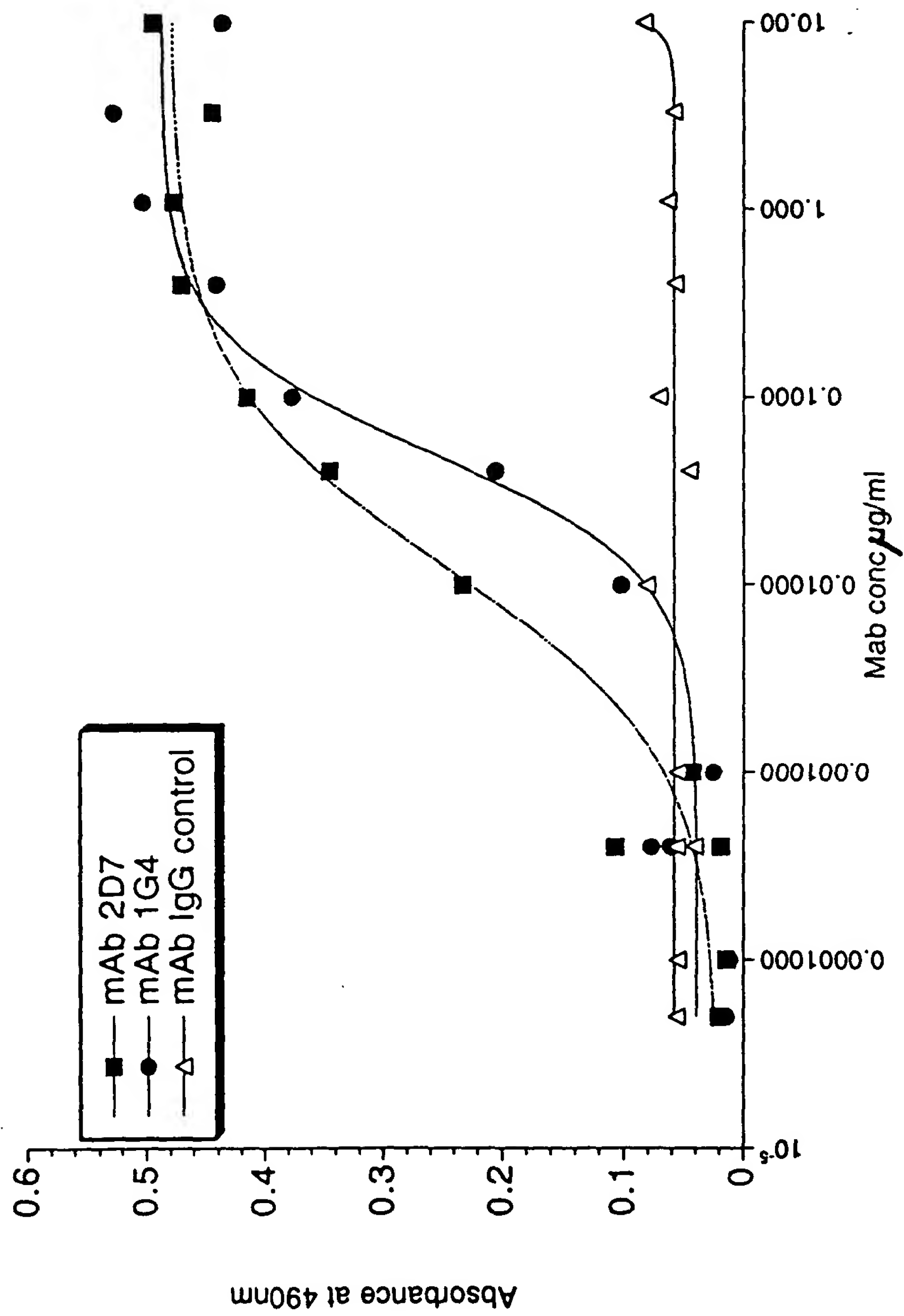


Figure 17

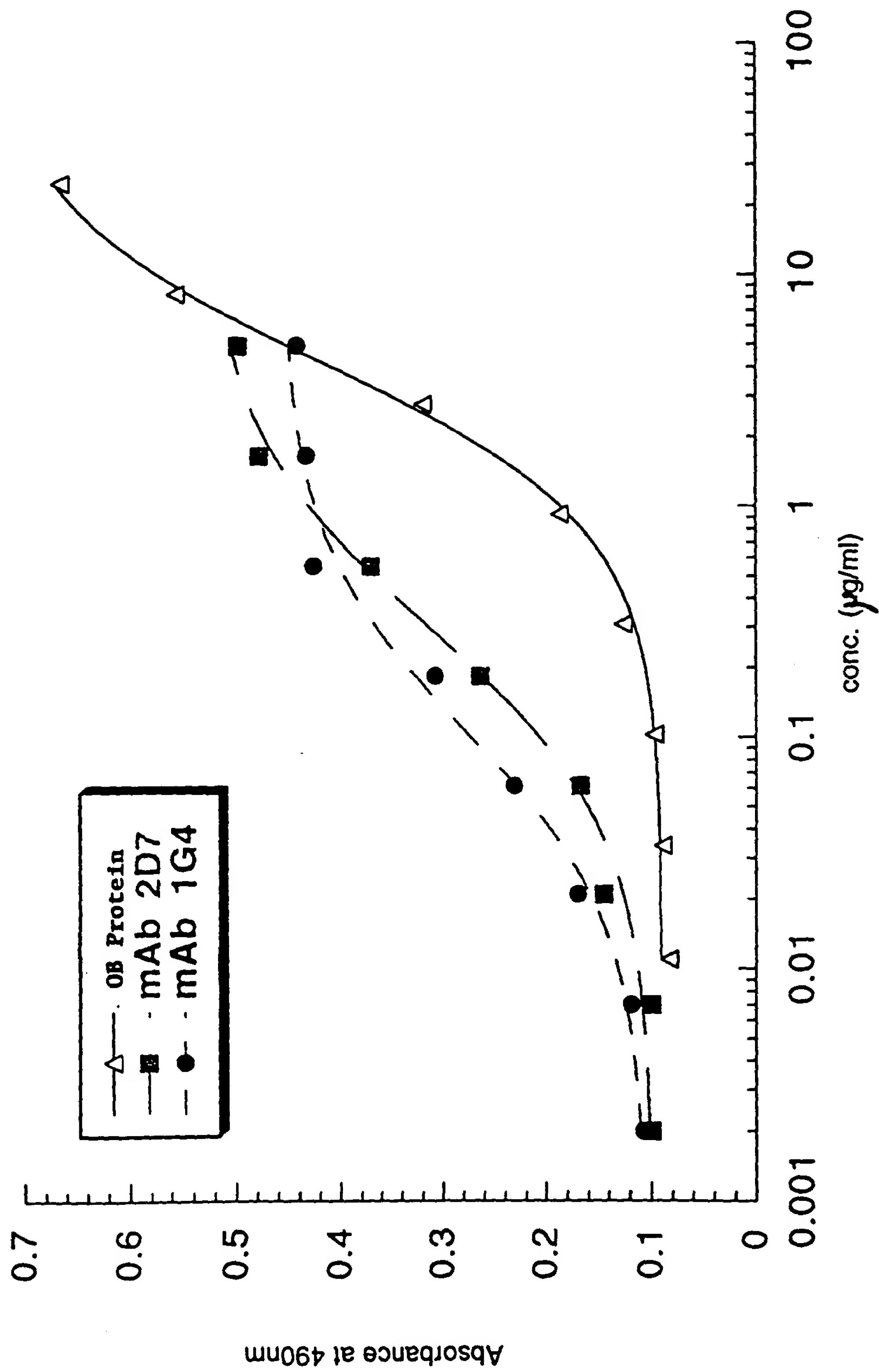


Figure 18

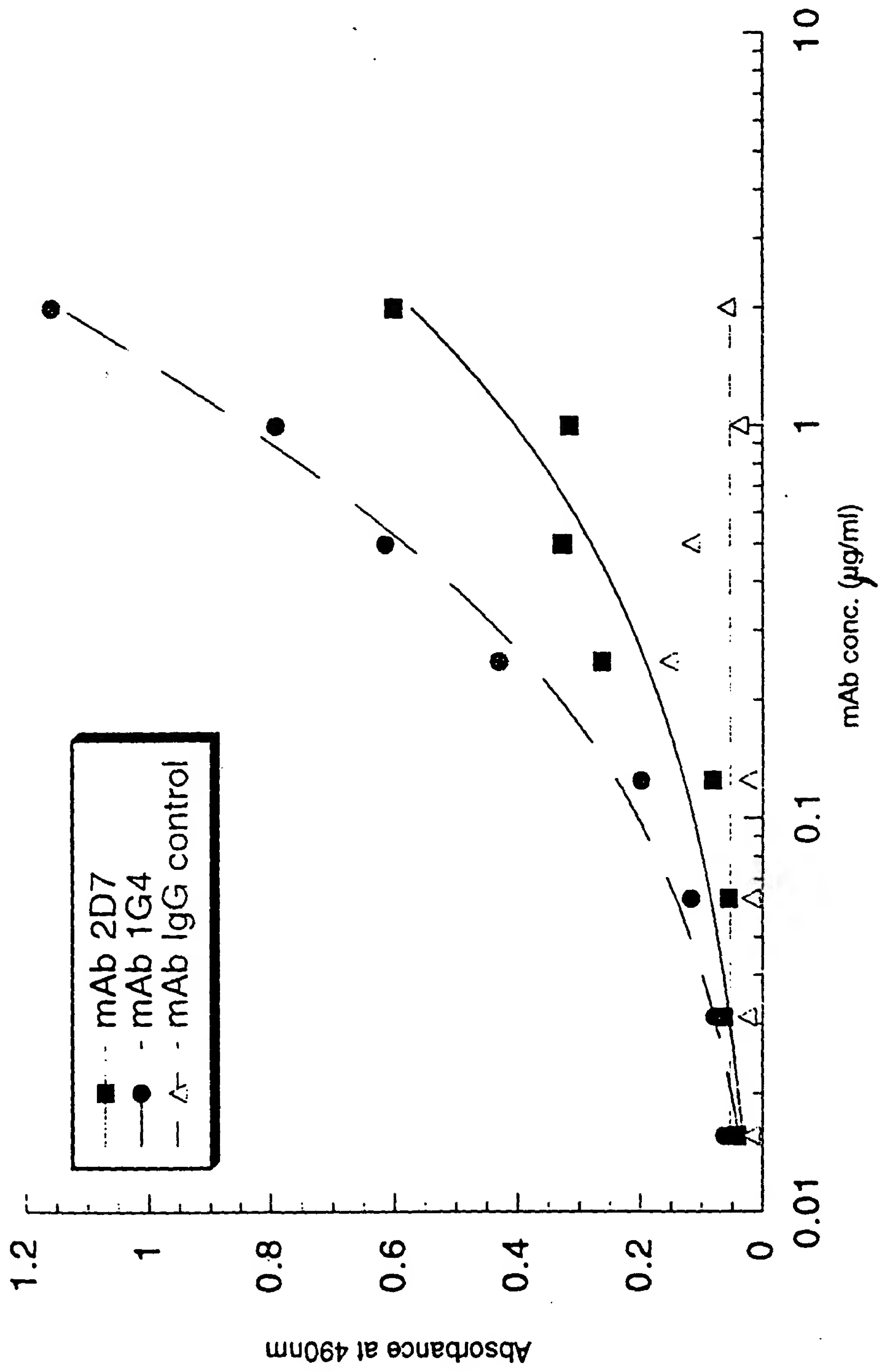


Figure 19

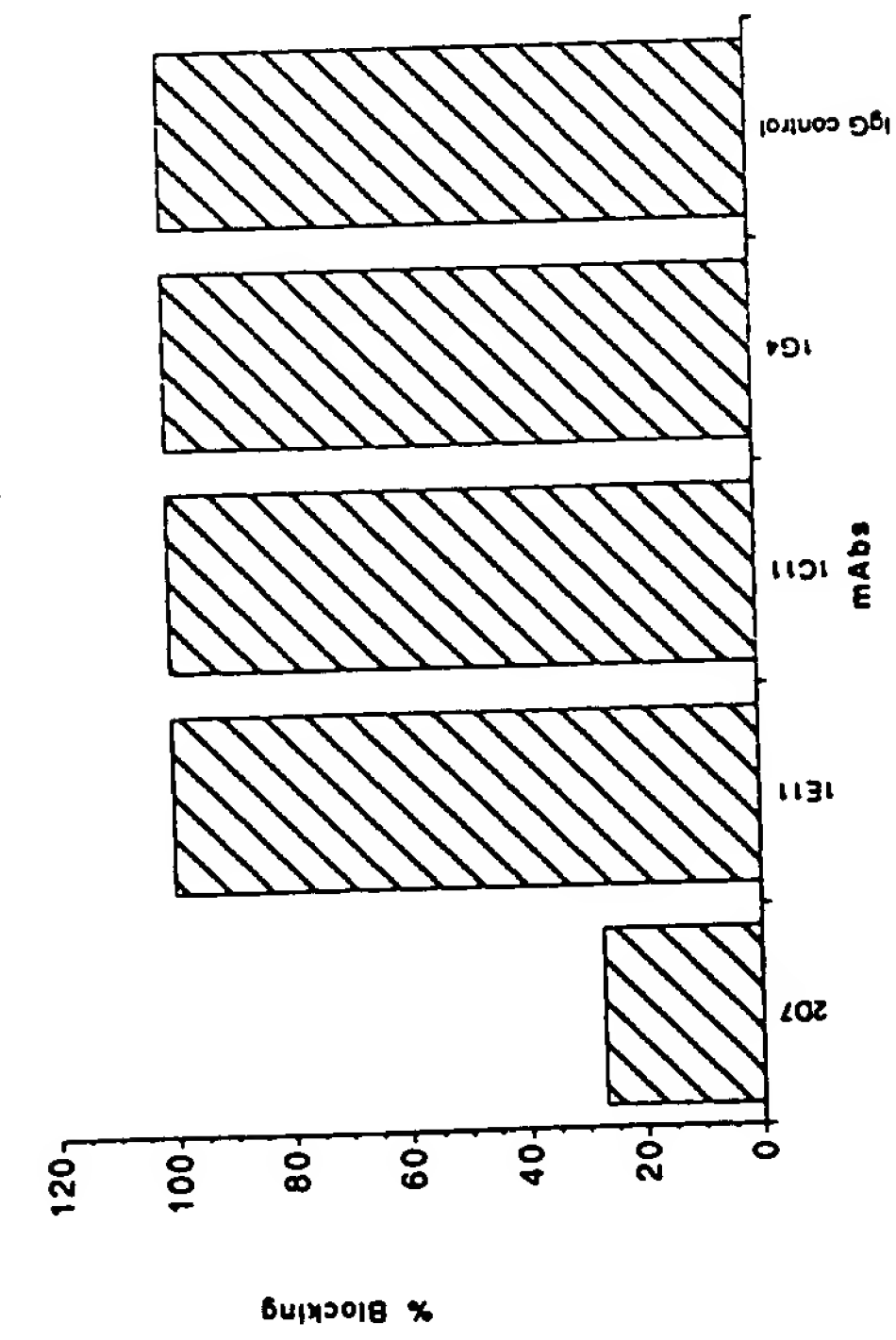


Figure 20A

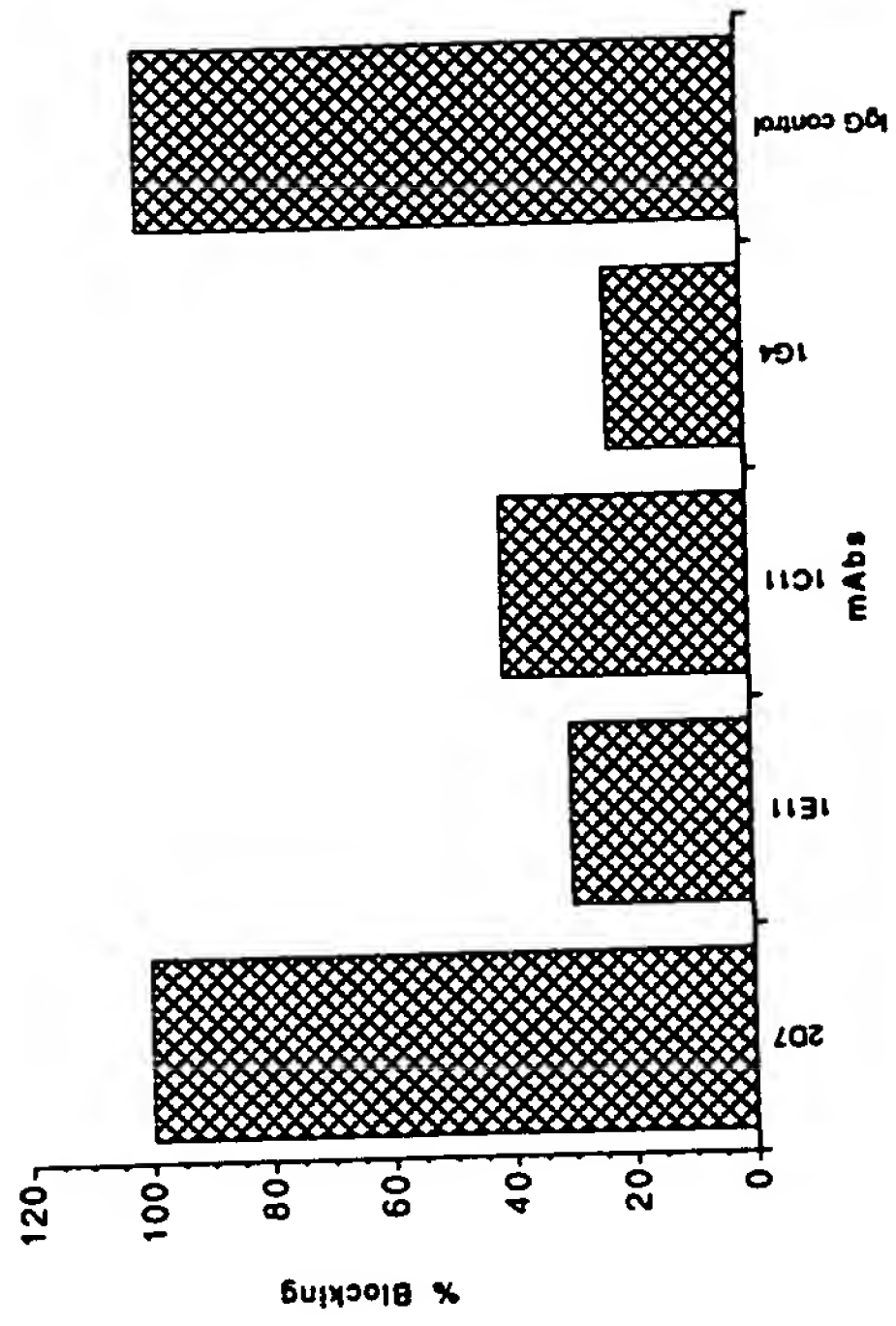


Figure 20B



2025 RELEASE UNDER E.O. 14176

hWSXR
mWSXR

1 M I C Q K F C V V L H W E F I Y V I T A F N L S Y P I T P W R F K L S C M P P N S T Y D Y F L L P
1 M M C Q K F Y V V L L H W E F L Y V I A A L N L A Y P I S P W K F K L F C G P P N T T D D S F L S P

51 A G L S K N T S N S N G H Y E T A V E P K F N S S G T H F S N L S K T T F H C C F R S E Q D R N C S
51 A G A P N N A S A L K G A S E A I V E A K F N S S G I Y V P E L S K T V F H C C F G N E Q G O N C S

101 L C A D N I E G K T F V S T V N S L V F Q O I D A N W N I O C W L K G D L K L F I C Y V E S L F K N
101 A L T D N T E G K T L A S V V K A S V F R O L G V N W D I E C W M K G D L T L F I C H M E P L P K N

151 L F R N Y N Y K V H L L Y V L P E V L E D S P L V P O K G S F O M V H C N C S V H E C C E C L V P V
151 P F K N Y D S K V H L L Y D L P E V I D D S P L P P L K D S F O T V O C N C S L R G - C E C H V P V

201 P T A K L N D T L L M C L K I T S G G V I F O S P L M S V O P I N M V K P D P P L G L H M E I T D D
200 P R A K L N Y A L L M Y L E I T S A G V S F O S P L M S L O P M L V V K P D P P L G L H M E V T D D

251 G N L K I S W S S P P L V P F P L O Y O V K Y S E N S T T V I R E A D K I V S A T S L L V D S I L P
250 G N L K I S W D S Q T M A P F P L O Y O V K Y L E N S - T I V R E A A E I V S A T S L L V D S V L P

301 G S S Y E V Q V R G K R L D G P G I V S D W S T P R V F T T O D V I Y F P P K I L T S V G S N V S F
299 G S S Y E V Q V R S K R L O G S G V W S S S P O V F T T O D V V Y F P P K I L T S V G S N A S F

351 H C I Y K K E N K I V P S K E I V W W M N L A E K I P O S O Y D V V S D H V S K V T F F N L N E T K
349 H C I Y K N E N Q I I S S K O I V W W R N L A E K I P E I Q Y S I V S D R V S K V T F S N L K A T R

401 P R G K F T Y D A V Y C C N E H E C H H R Y A E L Y V I D V N I N I S C E T D G Y L T K M T C R W S
399 P R G K F T Y D A V Y C C N E Q A C H H R Y A E L Y V I D V N I N I S C E T D G Y L T K M T C R W S

451 T S T I O S L A E S T L Q L R Y H R S S L Y C S D I P S I H P I S E P K D C Y L Q S D G F Y E C I F
449 P S T I O S L V G S T V Q L R Y H R S L Y C P D S P S I H P T S E P K N C V L Q R O G F Y E C V F

501 Q P I F L L S G Y T M W I R I N H S L G S L D S P P T C V L P D S V V K P L P P S S V K A E I T I N
499 Q P I F L L S G Y T M W I R I N H S L G S L D S P P T C V L P D S V V K P L P P S N V K A E I T V N

551 I G L L K I S W E K P V F P E N N L Q F O I R Y G L S G K E V Q W K M Y E V Y D A K S K S V S L P V
549 T G L L K V S W E K P V F P E N N L Q F O I R Y G L S G K E I Q W K T H E V F D A K S K S A S L L V

601 P D L C A V Y A V Q V R C K R L D G L G Y W S N W S N P A Y T V V M D I K V P M R G P E F W R I I N
599 S D L C A V Y V V Q V R C R R L D G L G Y W S N W S S P A Y T L V M D V K V P M R G P E F W R K M D

651 G D T M K K E K N V T L L W K P L M K N D S L C S V Q R Y V I N H H T S C N G T W S E D V G N H T K
649 G D V T K K E R N V T L L W K P L T K N D S L C S V R R Y V V K H R T A H N G T W S E D V G N R T N

701 F T F L W T E Q A H T V T V L A I N S I G A S V A N F N L T F S W P M S K V N I V O S L S A Y P L N
699 L T F L W T E P A H T V T V L A V N S L G A S L V N F N L T F S W P M S K V S A V E S L S A Y P L S

751 S S C V I V S W I L S P S D Y K L M Y F I I E W K N L N E D G E I K W L R I S S S V K K Y Y I H D H
749 S S C V I L S W T L S P D D Y S L L Y L V I E W K I L N E D O G M K W L R I P S N V K K F Y I H D N

801 F I P I E K Y O F S L Y P I F M E G V G K P K I I N S F T O D D I E K H O S D A G L Y V I V P V I I
799 F I P I E K Y O F S L Y P V F M E G V G K P K I I N G F T K D A I O K O O N D A G L Y V I V P I I I

851 S S S I L L L G T L L I S H O R M K K L F W E D V P N P K N C S W A O G L N F O K R T D I L
849 S S C V L L L G T L L I S H O R M K K L F W D D V P N P K N C S W A O G L N F O K R T D T L

Figure 21

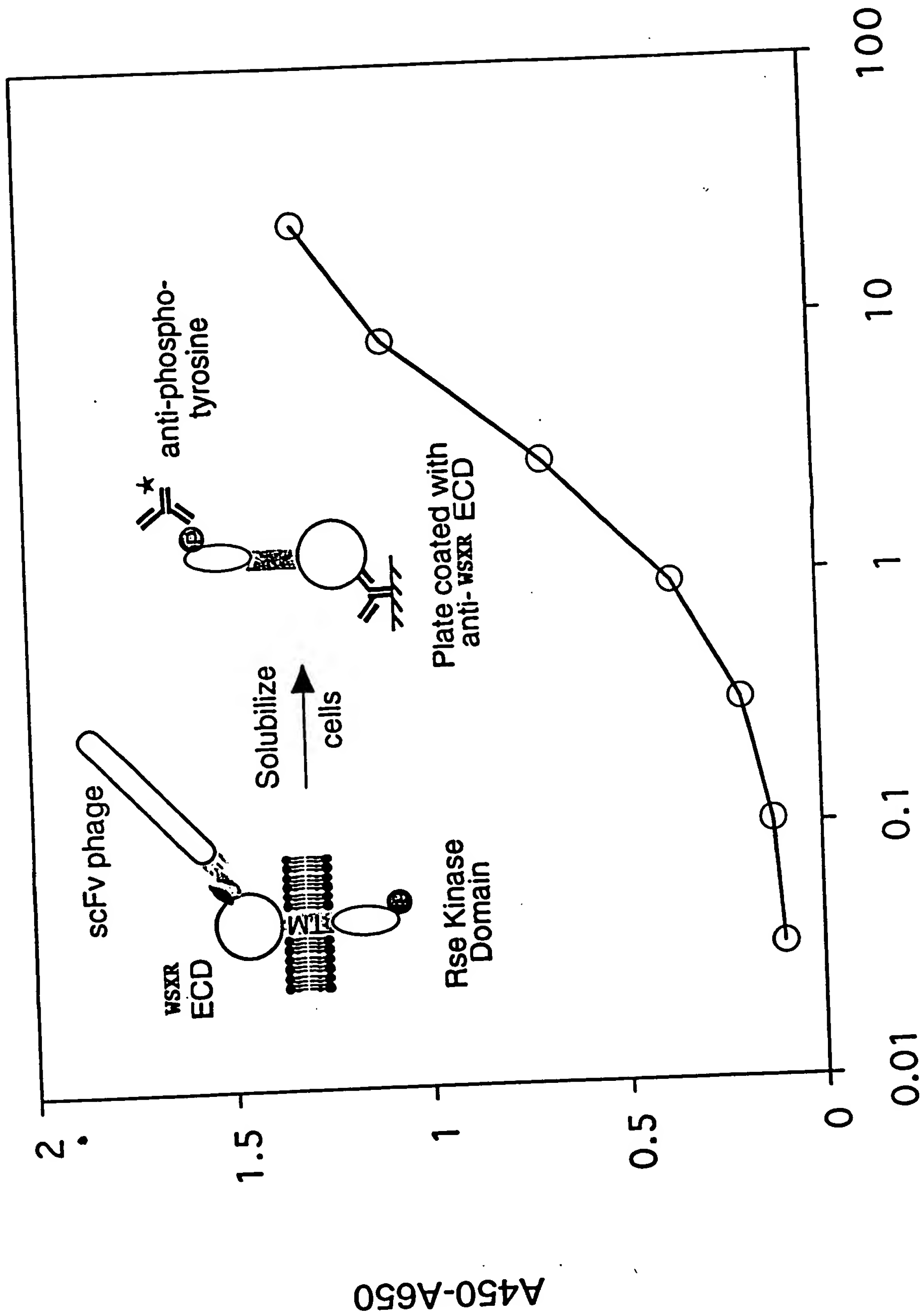


Figure 22

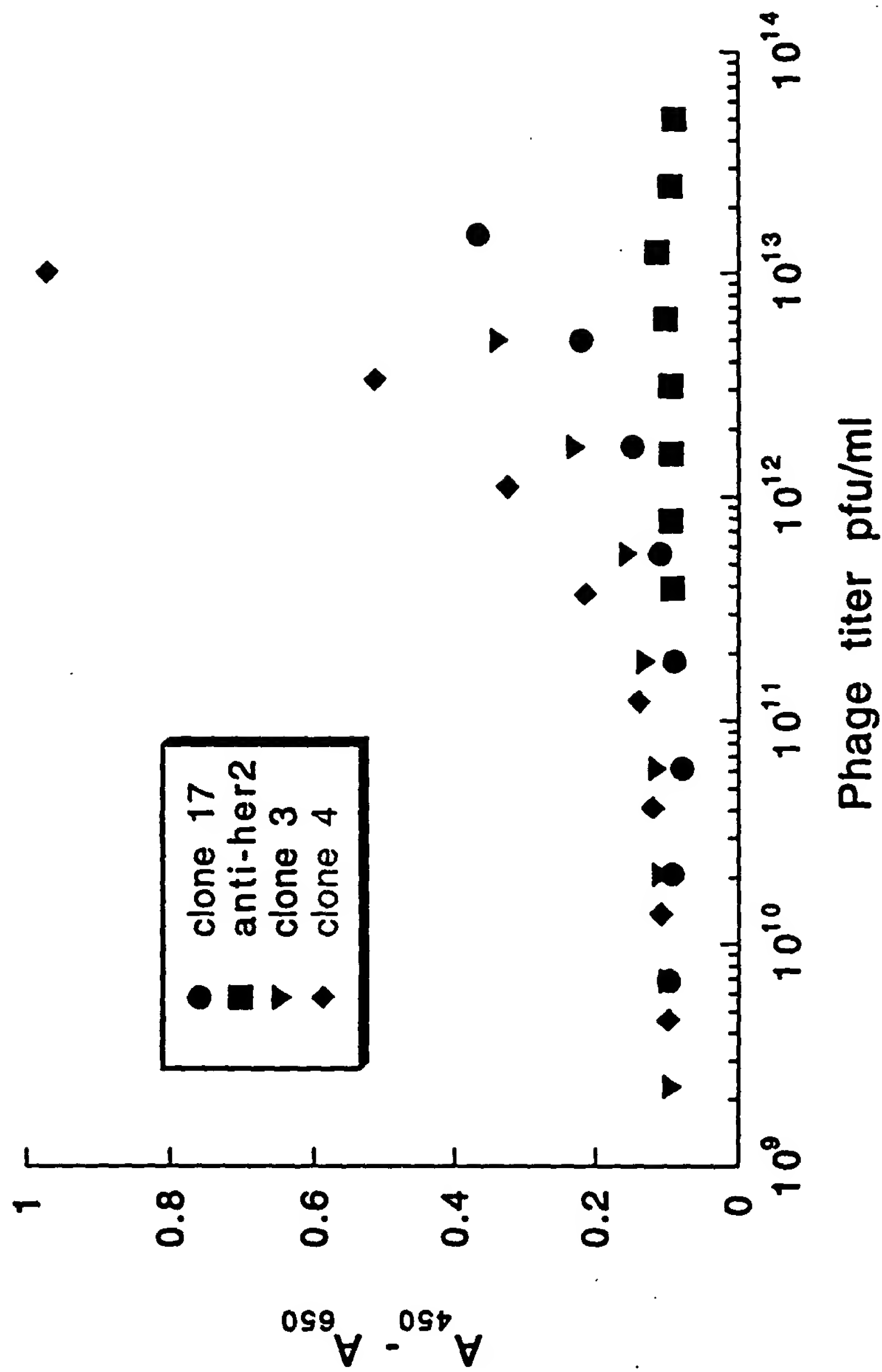


Figure 23

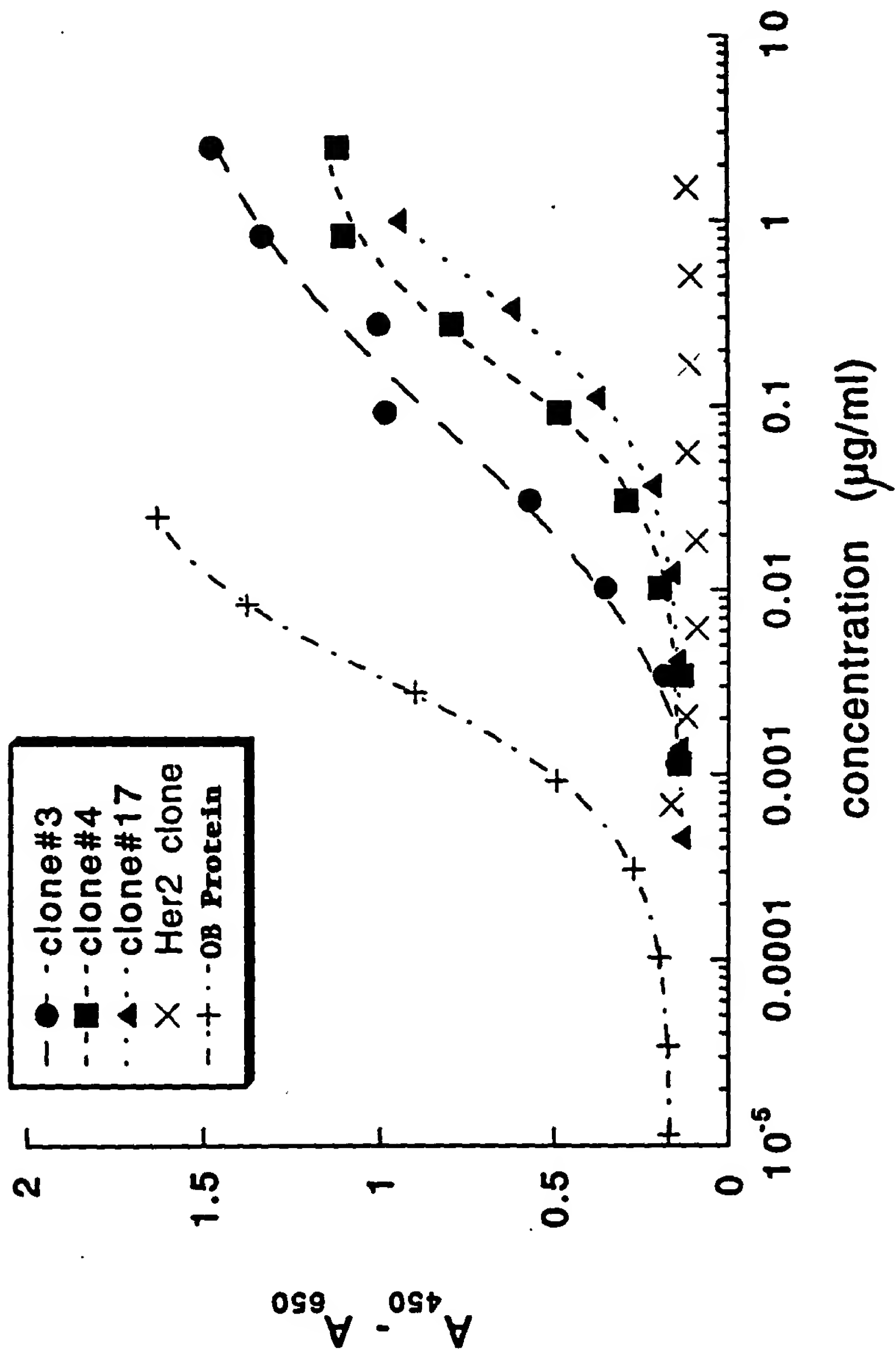


Figure 24

17.scfv 1 QVRLQQSGGGLVQPGRSRLRLSCAASGFTFDDYAMHWVRQAPGKGLEWVSG
 3.scfv 1 EVQLVQSGAEVKKPGASVKVSCKASGYTFTGYMYWVRQAPGQGLEWMGW
 4.scfv 1 EVQLVQSGAEVKKPGESLKISCQSGFTFSSYKMNWVRQAPGKGLEWMGG

CDR H1

17.scfv 51 MTWNSGSIGYADSVKGRFTISRDNAKNSLYLQMNSLRAEDTAVYYCAREP
 3.scfv 51 INPNSGGTNYAOKFOGRVTMTTRDTSIGTAYMELSRLLSDDTAVYYCARDR
 4.scfv 51 ILPIFGTANYAOKFOGRVTITADESTSTAYMELSSLRSEDVAVYYCARDR

CDR H2

17.scfv 101 HNTDA-----FDIWGRGTLVTVSSGGGGPGGGGSGGGGSDVVMTQSP
 3.scfv 101 YYGSSAYHRGSYMDYWGRGTLVTVSSGGGGTGGGGSGGGGS-SELTQDP
 4.scfv 101 VVYPATSLRGG--MDYWGQTTVTVSSGGGGSGGGGSGGGGSQSVLTQPA

CDR H3

17.scfv 143 SFLSAFVGDTITITCRASO---GIYNYLAWYQOKPGKAPKLLIYAASTLO
 3.scfv 150 A-VSVALGQTVRITCOGDS--LRSY-YASWYQOKPGQAPVLVIYGKNNRP
 4.scfv 149 S-VSGSPGQSITISCTGTSSDVGGYNYVSWYQHPGKAPKLMIEGSKRP

CDR L1

CDR L2

17.scfv 190 SGVPSRFSGSGSGTEFTLTISLQPEDFGTYTCOOLI--SYPLTFGGGTK
 3.scfv 196 SGIPDRFSGSSSGNTASLTITGAQAEDEADYYCNSRDSSGNHVVFGGGTK
 4.scfv 198 SGVSNRFSGSKSGSTASLTISGLQAEDEADYYCSSYTTRSTR-VFGGGTK

CDR L3

17.scfv 238 VEIK
 3.scfv 246 LTVL
 4.scfv 247 LTVL

Figure 25